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DEPARTMENT OF THE AIR FORCE

JUSTIFICATION OF ESTIMATES FOR FISCAL YEAR 1987
SUBMITTED TO CONGRESS FEBRUARY 1986



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Aircraft Procurement, Air Force

DEPARTMENT OF THE AIR FORCE
AIRCRAFT PROCUREMENT, AIR FORCE

TABLE OF CONTENTS

Appropriation Language.....	1
Basic Program & Financing.....	2
Basic Object Classification.....	4
Program & Financing:	
1983 Fiscal Year Program.....	5
1984 Fiscal Year Program.....	6
1985 Fiscal Year Program.....	7
1986 Fiscal Year Program.....	8
1987 Fiscal Year Program.....	9
Budget Activity Justification:	
Combat Aircraft.....	10
Airlift Aircraft.....	12
Trainer Aircraft.....	13
Other Aircraft.....	14
Modification of In-Service Aircraft.....	15
Aircraft Spares & Repair Parts.....	33
Aircraft Support Equipment & Facilities.....	43
Comparison of FY 1985 Program Requirements and Financing.....	56
Comparison of FY 1986 Program Requirements and Financing, 2-1.....	58
Flight Simulator Procurement Program.....	60

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AIRCRAFT PROCUREMENT, AIR FORCE

For construction, procurement, and modification of aircraft and equipment, including armor and armament, specialized ground handling equipment and training devices, spares parts, and accessories therefor; specialized equipment; expansion of public and private plants, Government-owned equipment and installation thereof in such plants, erection of structures, and acquisition of land, for the foregoing purposes, and such lands and interests therein, may be acquired, and construction prosecuted thereon prior to the approval of title; reserve plant and Government and contractor-owned equipment layaway; and other expenses necessary for the foregoing purposes including rents and transportation of things; \$19,127,400, to remain available for obligation until September 30, 1989 (5 U.S.C. 3109; 10 U.S.C. 2271-79; 2353, 2386, 2663, 2672, 2672a, 8012, 8062, 9501-02, 9505, 9531-32, 9741-42; 31 U.S.C. 649c, 718; 50 U.S.C. 451, 453, 455; Department of Defense Appropriation Act, 1986, additional authorizing legislation to be proposed).

Aircraft Procurement, Air Force
Program and Financing (in Thousands of dollars)

04 Feb 86

Identification code	57-3010-0-1-051	Budget Plan (amounts for PROCUREMENT actions programmed)				Obligations		
		1985 actual	1986 est.	1987 est.	1985 actual	1986 est.	1987 est.	
Program by activities:								
Direct program:								
00.0101	Combat aircraft	12,005,283	10,716,500	6,166,500	11,328,430	9,976,152	7,241,419	
00.0201	Airlift aircraft	1,988,858	2,476,500	2,189,178	1,771,975	1,805,682	2,053,447	
00.0301	Trainer aircraft	120,700			96,398	13,202	11,375	
00.0401	Other aircraft	239,962	296,500	96,149	183,862	211,586	160,492	
00.0501	Modification of inservice aircraft	3,023,540	2,885,317	3,101,311	3,119,606	3,102,340	3,175,876	
00.0601	Aircraft spares and repair parts	5,346,100	3,811,105	3,477,903	5,393,210	3,664,676	3,563,586	
00.0701	Aircraft support equipment and facilities	2,499,081	2,844,602	4,096,359	1,985,439	2,897,885	3,819,657	
00.9101	Total direct program	25,223,524	23,030,524	19,127,400	23,878,920	21,671,523	20,025,852	
01.0101	Reimbursable program	212,057	199,500	188,000	139,567	412,622	188,000	
10.0001	Total	25,435,581	23,230,024	19,315,400	24,018,487	22,084,145	20,213,852	
Financing:								
Offsetting collections from:								
11.0001	Federal funds(-)	-37,043	-20,170	-22,035	1,559	-20,170	-22,035	
13.0001	Trust funds(-)	-174,534	-163,800	-149,000	-179,624	-163,800	-149,000	
14.0001	Non-Federal sources(-)	-480	-15,530	-16,965	-651	-15,530	-16,965	
17.0001	Recovery of prior year obligations				-565,982			
21.4002	Unobligated balance available, start of year:				-7,939,561	-9,305,097	-10,447,076	
21.4003	For completion of prior year budget plans	-15,500	-1,113,500	-178,900	-15,500	-1,113,500	-178,900	
21.4007	Available to finance new budget plans	-584,199	-3,900					
22.4001	Reprogramming from/to prior year budget plan	230,619	1,117,400		230,619	1,117,400		
22.4001	Unobligated balance transferred to other acc							
22.4001	Unobligated balance available, end of year:							
24.4002	For completion of prior year budget plans	1,113,500	178,900	178,900	9,305,037	10,447,076	9,548,624	
24.4003	Available to finance subsequent year buage	123,480			1,113,500	178,900	178,900	
25.0001	Unobligated balance lapsing				123,480			
39.0001	Budget authority	26,091,424	23,209,424	19,127,400	26,091,424	23,209,424	19,127,400	
Budget authority:								
40.0001	Appropriation	26,138,263	23,255,424	19,127,400	26,188,266	23,255,424	19,127,400	
41.0001	Transferred to other accounts(-)	-96,842	-56,600		-96,842	-56,600		
42.0001	Transferred from other accounts		10,600			10,600		
43.0001	Appropriation (adjusted)	26,091,424	23,209,424	19,127,400	26,091,424	23,209,424	19,127,400	
Relation of obligations to outlays:								
71.0001	Obligations incurred, net				23,839,771	21,884,645	20,025,852	
72.4001	Obligated balance, start of year				23,706,467	31,197,798	35,833,750	
74.4001	Obligated balance, end of year				-31,197,798	-35,833,750	-38,030,649	
77.0001	Adjustments in expired accounts				-163,872			
78.0001	Adjustments in unexpired accounts				-565,982			

PK AF

Aircraft Procurement, Air Force
Program and Financing (in Thousands of dollars)

04 Feb 86

Identification code	57-3010-0-1-051	1985 actual	1986 est.	1987 est.
90.0001	Outlays	15,618,586	17,248,693	17,828,953

PK AF

Aircraft Procurement, Air Force
Object Classification (in Thousands of dollars)

Identification code	57-3010-0-1-051			04 Feb 86
Direct obligations:				
131.001 Equipment		1985 actual	1986 est	1987 est.
		23,878,920	21,671,523	20,025,852
199.001 Total Direct obligations				
Reimbursable obligations:				
231.001 Equipment		23,878,920	21,671,523	20,025,852
299.001 Total Reimbursable obligations		139,567	412,622	186,000
		139,567	412,622	188,000
999.901 Total obligations		24,018,487	22,084,145	20,213,852

Aircraft Procurement, Air Force
Program and Financing (in Thousands of dollars) FISCAL YEAR 1983

04 Feb 86

Identification code		57-3010-0-1-051		Budget Plan (amounts for PROCUREMENT actions programmed)		Obligations	
		1985 actual	1986 est.	1987 est.	1985 actual	1986 est.	1987 est.
Program by activities:							
Direct program:							
00.0101	Combat aircraft				618,886		
00.0201	Airlift aircraft				92,775		
00.0401	Other aircraft				11,588		
00.0501	Modification of inservice aircraft				643,819		
00.0601	Aircraft spares and repair parts				579,069		
00.0701	Aircraft support equipment and facilities				233,424		
00.9101	Total direct program				2,179,681		
01.0101	Reimbursable program				45,600		
10.0001	Total				2,225,281		
Financing:							
Offsetting collections from:							
11.0001	Federal funds(-)				22,656		
13.0001	Trust funds(-)				-2,229		
14.0001	Non-Federal sources(-)				147		
17.0001	Recovery of prior year obligations				-267,606		
21.4002	Unobligated balance available, start of year						
21.4007	For completion of prior year budget plans				-2,299,848		
22.4001	Reprogramming from/to prior year budget plan						
25.0001	Unobligated balance transferred to other acc				198,119		
	Unobligated balance lapsing				123,480		
30.0001	Budget authority						

Aircraft Procurement, Air Force
Program and Financing (in Thousands of dollars) FISCAL YEAR 1984

04 Feb 86

Budget Plan (amounts for PROCUREMENT
actions programmed)

Identification code	57-3010-0-1-051	1985 actual	1986 est.	1987 est.	1985 actual	1986 est.	1987 est.
Program by activities:							
Direct program:							

00 0101	Combat aircraft				1,260,910	856,128	
00 0201	Airlift aircraft				34,232	14,308	
00 0301	Trainer aircraft				39,250	25	
00 0401	Other aircraft				717,643	11,166	
00 0501	Modification of inservice aircraft				706,694	550,337	
00 0601	Aircraft spares and repair parts				421,838	526,144	
00 0701	Aircraft support equipment and facilities					424,574	
00 9101	Total direct program				3,181,108	2,382,682	
01 0101	Reimbursable program				34,844	60,188	
10 0001	Total				3,215,952	2,442,870	

Financing:

Offsetting collections from:

Federal funds(-)

Trust funds(-)

Non-Federal sources(-)

Recovery of prior year obligations

Unobligated balance available, start of year:

For completion of prior year budget plans

Available to finance new budget plans

Reprogramming from/to prior year budget plan

Unobligated balance transferred to other acc

Unobligated balance available, end of year:

For completion of prior year budget plans

Available to finance subsequent year budget

Budget authority

11 0001					15,946		
13 0001					-2,861		
14 0001					-318		
17 0001					-298,376		
21 4002							
21 4003					-5,639,713	-2,442,870	
21 4007					-15,500	-249,500	
22 4001							
24 4002					32,500	249,500	
24 4003					2,442,870		
39 0001					249,500		

Aircraft Procurement, Air Force
Program and Financing (in Thousands of dollars) FISCAL YEAR 1985

04 Feb 86

Identification code 57-3010-0-1-051		Budget Plan (amounts for PROCUREMENT actions programmed)				Obligations	
Program by activities:		1985 actual	1985 est.	1987 est.	1985 actual	1986 est.	1987 est.
Direct program:							
00.0101	Combat aircraft	12,003,283			9,448,634	1,372,183	1,184,466
00.0201	Airlift aircraft	1,988,858			1,644,968	184,566	159,324
00.0301	Trainer aircraft	120,700			96,148	13,177	11,375
00.0401	Other aircraft	239,962			132,633	57,603	49,726
00.0501	Modification of inservice aircraft	3,023,540			1,758,144	679,138	586,258
00.0601	Aircraft spares and repair parts	5,346,100			4,107,427	664,796	573,677
00.0701	Aircraft support equipment and facilities	2,499,081			1,330,177	627,351	541,553
00.9101	Total direct program	25,223,524			18,518,131	3,598,814	3,106,579
01.0101	Reimbursable program	212,057			59,123	152,934	
10.0001	Total	25,435,581			18,577,254	3,751,748	3,106,579
Financing:							
Offsetting collections from:							
11.0001	Federal funds(-)	-37,043			-37,043		
13.0001	Trust funds(-)	-174,534			-174,534		
14.0001	Non-Federal sources(-)	-480			-480		
21.4002	Unobligated balance available, start of year:						
21.4003	For completion of prior year budget plans						
21.4007	Available to finance new budget plans	3,900					
22.4001	Reprogramming from/to prior year budget plan						
24.4002	Unobligated balance transferred to other acc						
24.4003	Unobligated balance available, end of year:						
24.4003	For completion of prior year budget plans	804,000			6,862,227	3,106,579	
24.4003	Available to finance subsequent year budget				864,000		
39.0001	Budget authority	26,091,424			26,091,424		
Budget authority:							
40.0001	Appropriation	26,129,260			26,188,266		
41.0001	Transferred to other accounts(-)	-95,842			-96,842		
43.0001	Appropriation (adjusted)	26,091,424			26,091,424		

Aircraft Procurement, Air Force
Program and Financing (in Thousands of dollars) FISCAL YEAR 1986

04 Feb 86

		Budget Plan (amounts for PROCUREMENT actions programmed)			Obligations	
Identification code		1985 actual	1986 est.	1987 est.	1985 actual	1987 est.
Program by activities:						
Direct program:						
00.0101	Combat aircraft	10,716,500			7,747,841	1,758,465
00.0201	Airlift aircraft	2,476,500			1,606,808	367,520
00.0401	Other aircraft	596,500			142,817	44,102
00.0501	Modification of inservice aircraft	2,885,317			1,872,865	428,374
00.0601	Aircraft spares and repair parts	3,811,105			2,473,736	565,810
00.0701	Aircraft support equipment and facilities	2,844,602			1,845,860	422,222
00.9101	Total direct program	23,030,524			15,690,027	3,586,493
01.0101	Reimbursable program	199,500			199,500	
10.0001	Total	23,230,024			15,889,527	3,586,493
Financing:						
Offsetting collections from:						
11.0001	Federal funds(-)	-20,170			-20,170	
13.0001	Trust funds(-)	-163,800			-163,800	
14.0001	Non-Federal sources(-)	-15,530			-15,530	
21.4002	Unobligated balance available, start of year:					
21.4003	For completion of prior year budget plans					
	Available to finance new budget plans					
24.4002	Unobligated balance available, end of year:					
24.4003	For completion of prior year budget plans					
	Available to finance subsequent year budget					
39.0001	Budget authority	178,900			7,340,497	3,754,004
					178,900	178,900
		23,209,424			23,209,424	
Budget authority:						
40.0001	Appropriation	23,255,424			23,255,424	
41.0001	Transferred to other accounts(-)	-56,600			-56,600	
42.0001	Transferred from other accounts	10,600			10,600	
43.0001	Appropriation (adjusted)	23,209,424			23,209,424	

Aircraft Procurement, Air Force
Program and Financing (in thousands of dollars) FISCAL YEAR 1987

04 Feb 86

		Budget Plan (amounts for PROCUREMENT actions programmed)				Obligations	
Identification code		1985 actual	1986 est.	1987 est.	1985 actual	1986 est.	1987 est.
Program by activities:							
Direct program:							
00.0101	Combat aircraft			6,166,500			4,298,488
00.0201	Airlift aircraft			2,189,178			1,526,603
00.0401	Other aircraft			96,149			66,664
00.0501	Modification of inservice aircraft			3,101,311			2,161,244
00.0601	Aircraft spares and repair parts			3,477,903			2,423,899
00.0701	Aircraft support equipment and facilities			4,096,359			2,855,882
00.9101	Total direct program			19,127,400			13,332,780
01.0101	Reimbursable program			188,000			188,000
10.0001	Total			19,315,400			13,520,780
Financing:							
Offsetting collections from:							
11.0001	Federal funds(-)			-22,035			-22,035
13.0001	Trust funds(-)			-149,000			-149,000
14.0001	Non-Federal sources(-)			-16,965			-16,965
24.4002	Unobligated balance available, end of year:						
	For completion of prior year budget plans						5,794,620
40.0001	Budget authority (Appropriation)			19,127,400			19,127,400

(In Thousands of Dollars)

Program Requirement - FY 88 ...	\$ 6,962,700
Program Requirement - FY 87 ...	6,166,500
Program Requirement - FY 86 ...	10,716,500
Program Requirement - FY 85 ...	12,005,283

ACTIVITY: Combat Aircraft

PART I. PURPOSE AND SCOPE

This activity provides for the procurement of new aircraft, associated flight simulation devices, and other peculiar training and support equipment for modernization of the U.S. combat forces and to improve the efficiency of training programs.

Combat aircraft are required to attain and maintain air superiority, interdict enemy supply lines, provide reconnaissance of enemy forces, and furnish close air support to ground forces. The aircraft can be used to counter a variety of threats and offer options of response ranging from the use of diversified conventional weapons through, in the case of U.S. forces, a variety of nuclear weapons.

The FY 1987 and FY 1988 programs include funds for the procurement of Air Defense Competition, F-15, F-16, MC-130H, AC-130H Gunship and KC-10A aircraft. The programs also include funds for procurement of flight simulators for F-15 and F-16 aircraft. The KC-10A and F-16 requests are multiyear procurements.

PART II. JUSTIFICATION OF FUNDS REQUESTED

The FY 1987 and FY 1988 funding requirements for procurement of combat aircraft, related support items, and advance procurement in support of the following year's program are: FY 1987 - \$6,166.5 million; FY 1988 - \$6,962.7 million. Details are as follow:

F-15C/D/E (FY 1987 - 48 aircraft, \$1,894.3 million; FY 1988 - 48 aircraft, \$1,982.2 million):

The F-15 is a twin engine, single crew, fixed swept wing aircraft designed specifically for high maneuverability in air-to-air combat. The F-15 is the first U.S. fighter aircraft to possess a takeoff thrust-to-weight ratio greater than one-to-one. The F-15's low wing loading, the ratio of aircraft weight to its wing area, in combination with its high thrust-to-weight ratio, enables the F-15 to turn very tightly without losing air speed. The F-15's clean wing, with inboard flaps and outboard ailerons, provides the most efficient minimum-drag configuration at high lift in the transonic speed range. The F-15 is able to reach a dash speed of Mach 2.5. It is equipped with a balanced mix of medium and short range missiles and a rapid firing 20mm cannon. The avionics system includes an advanced radar, a visual head-up display, and an automatic built-in test system. Air-to-air tasks include continental air defense, combat air patrol, escort and fighter sweeps in or out of the enemy's ground-controlled intercept environment. It has replaced the F-4E as the primary air superiority fighter in the force structure. The F-15 has the maneuverability, armament, and fire control needed to surpass the expected capability of enemy aircraft in the 1980s. Procurement of 48 F-15E aircraft are requested in FY 1987.

F-16C/D (FY 1987 - 216 aircraft, \$3,493.9 million; FY 1988 - 216 aircraft, \$3,664.5 million):

The F-16 is a single engine, lightweight, high performance, multi-mission fighter capable of performing a broad spectrum of tactical air warfare tasks. The design characteristics of the F-16 are such as to permit high sortie rates with rapid turn around, minimum manpower/logistics burden, and exceptional air combat maneuvering performance, coupled with a potent air-to-ground weapons delivery capability. The U.S. Air Force plans to buy a total of 3,047 F-16s through FY 1994 to replace aging F-4s and to modernize the Air Reserve Forces. The F-16 will also enable modernization and standardization of equipment among those allied countries which choose to replace their aging tactical fighter forces with F-16s.

KC-10A (Advanced Tanker/Cargo Aircraft) (FY 1987 - 5 aircraft, \$104.4 million):

The KC-10A Advanced Tanker/Cargo Aircraft is a production-line McDonnell Douglas DC-10 modified only as necessary to provide an air refueling capability and to fully exploit the aircraft's cargo carrying potential. It is an aircraft of unique versatility, capable of providing both long range air refueling and airlift support. Its air refueling off-load capability will permit deployment and reinforcement of U.S. military forces without reliance on uncertain intermediate foreign basing rights. Combining its large cargo and fuel off-load potential, the KC-10A provides a capability to deploy tactical fighter forces and their support equipment simultaneously, ready to fight. Additionally, the KC-10A will significantly expand U.S. strategic airlift capacity, particularly with respect to long range movement of oversized cargo, when not otherwise involved in air refueling operations. This request is for the last increment of a multiyear procurement program for 44 aircraft.

KC-130H (FY 1987 - 5 aircraft, \$244.8 million; FY 1988 - 5 aircraft, \$241.8 million):

This aircraft is a medium size transport used for special tactical missions. It is powered by four T56-A-15 turboprop engines. It has a ferry range of approximately 4,200 nautical miles, a service ceiling of 35,000 feet, and a cruise speed of 290 knots. Its cargo compartment length, width, and height are 41, 10, and 11 feet respectively, and can carry a payload of 30,000 pounds. The normal crew of seven consists of a pilot, co-pilot, flight engineer, one navigator, electronic warfare officer, and two loadmasters. Aircraft features include an integral ramp and cargo door, crew and cargo compartment pressurization, ground and in-flight air conditioning, thermal de-icing system, single-point refueling, and auto pilot. Additional features of this specially modified C-130 are precision navigation, terrain following radar, Electronic Counter Measures (ECM) subsystem and in-flight refueling.

Air Defense Competition (FY 1987 - 20 aircraft, \$410.9 million; FY 1988 - 60 aircraft, \$777.2 million):

The Air Force has structured a competition for replacement of Air Defense aircraft. The F-106 is aging and has become difficult to support. The Air National Guard's F-4 does not have look-down and shoot-down capability. Competition for the Strategic Air Defense mission will be open to any and all contractors. The Air Defense Aircraft Competition is a new program and to date no contractual arrangements have been made. Air Defense Fighters provide surveillance and control of assigned geographical airspace and provide appropriate response to any air attack on the US.

AC-130 Gunship (FY 1987 - \$18.2 million Advance Procurement; FY 1988 - 5 aircraft, \$297.0 million):

The basic aircraft is a C-130H powered by four T-46-A-15 turboprop engines. The aircraft are converted to the gunship configuration by the addition of visual and electronic sensors, electronic countermeasures, warning systems, side-firing weapons, aerial refueling, armor, fire control system, target acquisition/terrain following and avoidance radar, precision navigation systems, secure communication suite, and other features which enable the aircraft to perform the full range of the gunship missions. The AC-130 gunship is to provide fire support for unconventional and conventional forces. The gunship must rapidly and effectively respond to a wide variety of joint/combined operations, plans, contingencies, including unconventional warfare, close air support, interdiction and armed reconnaissance.

(In Thousands of Dollars)

Program Requirement - FY 88 ...	\$1,403,600
Program Requirement - FY 87 ...	2,189,178
Program Requirement - FY 86 ...	4,476,500
Program Requirement - FY 85 ...	1,988,858

ACTIVITY: Airlift Aircraft

PART I. PURPOSE AND SCOPE

This activity provides for the procurement of new aircraft and support items to continue improvement of the U.S. airlift forces. The FY 1987 and FY 1988 programs include funds for the procurement of C-5B, C-17, Air Force One Replacement and C-12 aircraft.

PART II. JUSTIFICATION OF FUNDS REQUESTED

The FY 1987 and FY 1988 fund requirements for procurement of airlift aircraft, related support items, and advance procurement funding in support of the following year's program are: FY 1987 - \$2,189.2 million; FY 1988 - \$1,403.6 million. Details are as follow:

C-5B (FY 1987 - 21 aircraft, \$1,937.4 million):

The C-5 is a service-proven, wide-bodied, intertheater airlift aircraft that can carry the full spectrum of military air cargo. It will have four TF39-GE-1C turbofan engines and updated avionics. It is the world's largest military airlifter; it can onload/offload cargo at truckbed height or ground level at each end of the cargo compartment. Intertheater airlift is required to project and sustain combat forces in an urgent manner. Deficiencies in our airlift capability are documented in numerous studies, including the recently completed Congressionally Mandated Mobility Study. Additional C-5B procurement will make a substantial near-term improvement in our capability to rapidly reinforce NATO and to meet the mobility needs of the Central Command.

C-17 (FY 1987 - \$217.1 million; FY 1988 - 2 aircraft, \$1,382.8 million):

FY 87 funds are for advance buy and long lead requirements to support planned procurement of two aircraft in FY 88. The C-17 is a major initiative to improve our rapid deployment capability and correct deficiencies in the current airlift system. The C-17 will provide the last increment of intertheater airlift capability to reach the minimum level recommended in the Congressionally Mandated Mobility Study (66 million ton miles per day). It will provide the lift capability to move heavy mechanized Army/Marine Corps equipment in-theatre, replace the capability lost from retiring C-130 and C-141 aircraft beginning in FY 1990s and modernize the airlift force. C-17 will meet the airlift needs of the United States and substantially increase our force projection capability, both quantitatively and qualitatively.

Air Force One Replacement (FY 1987 - 34.5 million)

The Air Force One Replacement Program will replace the existing aircraft (B-707-320 models) with two new, off-the-shelf, FAA certified, wide-body aircraft. The aircraft will meet FAA noise standards and have improved communications equipment, range, performance and payload. This will include adequate work/rest space for the President, his staff, the aircrew, the National Security Council staff and an emergency medical treatment facility. The aircraft will be self-sufficient except for refueling and routine maintenance actions. Candidate aircraft include the DC-10 and the B-747. A competitive source selection will begin in FY 86 with contract award expected in the April-May 1986. The amount of funding for FY 86 is \$280 million. The first aircraft is required to be delivered not later than Nov 88; the second, about six months later. A new maintenance and support complex will be constructed as part of the program. The FY 87 portion of this program (\$34.5 million) is not for the weapon system. It reflects the final increment of funds necessary to fully support the operational commitments.

C-12 (FY 1988 - 6 aircraft, \$20.8 million)

The C-12 is an FAA-certified medium-weight utility aircraft. It is a commercial twin engine turboprop capable of carrying a combination personnel/cargo load of up to 3,800 lbs excluding fuel with a range of 1500nm while operating at a cruising altitude of 25,000 feet at a speed of 210 knots.

(In Thousands of Dollars)

Program Requirement - FY 88 ...	0
Program Requirement - FY 87 ...	0
Program Requirement - FY 86 ...	0
Program Requirement - FY 85 ...	\$120,700

ACTIVITY: Trainer Aircraft

Part I Purpose and Scope

This activity provides for the procurement of new aircraft, associated flight simulation devices, and support equipment required for flight training.

Part II Justification of Funds Requested

No funds are requested for trainer aircraft procurement in FY 1987 or FY 1988.

	(In Thousands of Dollars)
Program Requirement - FY 88 ...	\$60,781
Program Requirement - FY 87 ...	96,149
Program Requirement - FY 86 ...	296,500
Program Requirement - FY 85 ...	239,962

ACTIVITY: Other Aircraft

PART I. PURPOSE, SE, AND SCOPE

This activity provides for the procurement of TR-1/U-2R and Civil Air Patrol aircraft in FY 1987 and FY 1988.

PART II. JUSTIFICATION OF FUNDS REQUESTED

The FY 1987 and FY 1988 fund requirements for procurement of other aircraft equipment, related support equipment, and advance procurement funding in support of the following year's program are: FY 1987 - \$96.1 million; FY 1988 - \$60.8 million. Details are as follows:

TR-1/U-2R (FY 1987 - 3 aircraft, \$94.5 million; FY 1988 - 3 aircraft, \$59.2 million):

The TR-1/U-2 is a single engine, single crew, fixed wing aircraft specifically designed for high altitude, standoff surveillance missions. Except for three dual-seat training aircraft, all TR-1 aircraft can be equipped with either a reconnaissance sensor package or the Precision Location Strike System (PLSS) equipment. The TR-1 is the tactical variant of the highly reliable, versatile U-2R aircraft currently in the strategic reconnaissance inventory. The tactical reconnaissance TR-1, equipped with the latest sensors, will provide a battlefield surveillance system available to the theater/tactical commander into the 1990s. The U-2R is a national reconnaissance asset used in direct support of national command authorities and/or in direct support of theater commanders. Pratt & Whitney modified J75 engines, available from within the Air Force inventory, provide high maneuverability, and sufficient power for access/sensor operations.

Civil Air Patrol Aircraft (FY 1987 - 38 aircraft, \$1.6 million; FY 1988 - 38 aircraft, \$1.6 million):

These aircraft are commercial new or used propeller driven aircraft used by the Civil Air Patrol (CAP). CAP is a private, non-profit corporation which also functions as an official civilian auxiliary of the Air Force. CAP's best known mission is search & rescue.

PROGRAM: Modification of In-Service Aircraft

Program Rqmt - FY 88:	\$3,424,236
Program Rqmt - FY 87:	\$3,101,311
Program Rqmt - FY 86:	\$2,885,317
Program Rqmt - FY 85:	\$3,023,540

PART I PURPOSE AND SCOPE:

This budget activity provides for modification and modernization of in-service aircraft, training devices and support equipment necessary for safety, extension of service life, and to incorporate operational improvements after an aircraft has entered service. The program is designed to maintain the Air Force aircraft inventory at the most modern configuration level at the minimum cost.

PART II JUSTIFICATION OF FUNDS REQUEST

Modifications are necessary to enable the strategic offense, defense, tactical, and support forces to maintain superiority over hostile forces, to extend the active service life of aircraft, and to keep abreast of changing mission requirements. To ensure maximum safety for the aircraft and crews and to enhance capabilities of aircraft in a combat environment, priority modifications are necessary. Modifications are closely examined and priorities established so that only those most essential are accomplished with the funds available.

The FY 1987 program, to a large extent, consists of follow-on requirements for previously initiated modifications. In FY 1987 and beyond, in response to a CFMI volume pricing proposal, we are requesting 50 kits to re-engine the KC-135 tanker aircraft. This results in savings of nearly \$1 million per airplane in engine costs for FY 87 due to production efficiencies.

There also is a significant effort included to improve aircraft survivability in a hostile environment by upgrade to the electronic defensive capabilities on various aircraft. Funding also is requested to continue enhancement of peacetime readiness of an aging aircraft inventory. Other significant efforts impacting the program total include:

- (1) Modifications to provide NAVSTAR Global Positioning System (GPS) capability have begun on additional weapon systems.
- (2) Service life extension modifications to allow aircraft to meet their programmed service life requirements.
- (3) Enhancements to Special Operations Forces (SOF) aircraft.
- (4) Avionics Modernization Program for F/EB-111 aircraft to upgrade the bomb navigation system to improve operational readiness by replacing high failure, high cost, and technologically outdated components.

Aircraft modification kits are procured on a phased basis, lead time away from installation which is scheduled concurrently with normal depot maintenance programs to the maximum extent possible. Complex modifications are installed at Air Force depots or contractor facilities, concurrently with programmed depot maintenance. Where the installation tasks are less complex or require a relatively small number of man-hours, they are accomplished in the field by assigned personnel or specialized teams dispatched from the depot or provided by contractors.

During FY 1986, the Air Force has aggressively pursued the use of existing modern hardware to upgrade aging aircraft components and competitive procurement for modification hardware to control costs and maximize the benefits of the resources provided for modifications. While much of this effort has resulted in slower obligations, it has provided firm priced contracts at more attractive prices. The Force remains committed to using the pressure of the competitive marketplace to control costs.

B-52 (FY 1987 - \$413.4 million; FY 1988 - \$387.5 million). The FY 1987 program includes: continuation of modification for Pavé Mint electronic countermeasure equipment for the B-52G in the amount of \$83.9 million ALQ-172 electronic countermeasures equipment for the B-52H in the amount of \$104.0 million, maintainability and supportability improvements for the strategic radar in the amount of \$74.7 million, integration of internal Air Launched Cruise Missile Carriage capability in the amount of \$100.0 million, integrated conventional stores management system in the amount of \$34.7 million, and \$15.5 million for several reliability and supportability improvements necessary to maintain the aircraft in a safe operating condition.

The FY 1988 program continues existing modifications and will initiate incorporation of Very Low Frequency/Low Frequency (VLF/LF) miniature receive terminals.

FB-111 (FY 1987 - \$3.3 million; FY 1988 \$2.4 million). The FY 1987 program continues modifications to electronic countermeasures dispenser systems started in FY 1986.

B-1B (FY 1987 - \$96.4 million; FY 1988 - \$131.5). The FY 1987 program continues modifications to integrate the advanced cruise missile and air launched cruise missile (\$51.5 million), install VLF/LF miniature receive terminals (\$13.3 million), and continues funding to incorporate several modifications to make early aircraft common with later production aircraft.

A-7 (FY 1987 - \$14.1 million; FY 1988 - \$36.7 million). FY 1987 funding provides the slaved AIM-9L/M missile capability for the A-7 as well as continued funding for a new Inertial Navigation System (INS). FY 1988 funding continues the AIM-9L/M and the INS programs. The FY 86 Congressional add initiated the major reliability and maintainability (R&M) INS replacement and completely funded the starter battery R&M modification.

A-10 (FY 1987 - \$52.6 million; FY 1988 - \$46.2 million). The FY 1987 program includes follow-on modifications for a Turbine Engine Monitoring System in the amount of \$9.5 million, correction of deficiencies to the TF34 engine Hot Section in the amount of \$21.7 million, and \$7.1 million for various reliability/supportability improvements. Incorporation of AIM-9L Missile Carriage capability for \$9.3 million is also included. The TF-34 Hot Section modification utilizes a multiyear contract with Economic Order Quantity (EOQ) advance procurement of components. The FY 1987 request initiates a Ground Collision Avoidance System (GCAS) modification encouraged by the FY 86 Defense Act.

The FY 88 program initiates the Single Channel Ground/Airborne Radio System (SINCGAR) modification and a Chem-Bio modification to enhance the combat capability of the A-10.

F/RF-4 (FY 1987 - \$119.4 million; FY 1988 - \$298.4 million). The FY 1987 program continues funding for the 10 Mil Bombing System for the F-4D/E in the amount of \$19.0 million, \$6.8 million is required to complete the reliability/supportability update to the RF-4C radar, \$73.5 million is needed to continue funding for the Navigation Weapons Delivery Systems on the RF-4/F-4 D/E which includes the new USAF standard form fit, function Inertial Navigation System and \$17.5 million is for various safety, reliability, and supportability improvements. The one new initiative requested is \$2.6 million to convert the F-4E to accept linkless 20MM ammunition loading.

The FY 1988 program continues existing modifications and initiates Phase II of the Wild Weasel performance update program, a chemical defense equipment modification, and AJE-40 countermeasure dispenser modification (programmable CMD).

F-5 (FY 1987 - \$5.5 million; FY 1988 - \$6.0 million). The FY 1987 program of \$5.5 million consists of various safety, reliability and supportability improvements.

The FY 1988 program continues reliability improvement programs initiated in FY 1986/87 and adds a new modification to equip the F-5E with airborne radar electronic countermeasures.

F-15 (FY 1987 - \$269.0 million; FY 1988 - \$295.3 million). The FY 1987 program provides \$199.3 million to continue the Multi-Stage Improvement Program to various series of the F-15 to provide continued combat effectiveness; \$31.7 million for the Joint Tactical ID System; \$3.8 million for two low cost Class V modifications and \$26.5 million for various safety, reliability, and maintainability improvements. The latter includes improvements to the

Radar Receiver System, Avionics Intermediate Station (AIS) Modernization, engine compressor and various other modification that are also being incorporated into the production line.

The FY 1988 program continues the Multi-Stage Improvements Program and the various reliability improvement modifications and also provides for two Class V new starts: AN/ALE-45 F-15 A/B series (\$8.3 million) and Chem Bio (\$6.1 million). Funds also are provided for Class IV new start modification, the Outer Wing Torque Box (\$5.1 million).

F-16 (FY 1987 - \$87.7 million; FY 1988 - \$151.4 million). In FY 1987, \$60.3 million continues the modification for the Operational Capability Upgrade of the 132 aircraft to be assigned to the Air Defense role, provides electronic counter countermeasures enhancements to meet the projected electronic countermeasures threat and \$12.1 million accomplishes several reliability, maintainability and update modifications to both the aircraft and engine. Funding of \$1.3 million initiates the Global Positioning System (GPS) modification which will significantly enhance F-16 weapons delivery and navigation accuracy while providing a second navigation source and \$12.1 million starts a block update modification to the F-16 avionics intermediate shop.

The FY 1988 program continues modifications started in previous fiscal years, and initiates new capabilities for All Environment Identification Friend or Foe, Chem-Bio protection for crew members, and the Air Force Single Channel Ground/Air Radio System (SINCGARS) which provides an electronic counter countermeasures capability for airborne dual band UHF radios.

F-111 (FY 1987 - \$273.2 million; FY 1988 - \$357.3 million). The FY 1987 program includes follow-on modifications for the Avionics Modernization Program (\$219.4 million), and various reliability/supportability improvements (\$7.2 million). Funding of \$22.4 million is for the continuation of a simulator upgrade program for the currently non-supportable F/FR-111 System.

The FY 1988 program continues existing modifications.

FF-111 (FY 1988 - \$60.7 million). The FY 1988 program initiates a performance upgrade program to provide jamming improvements to meet current and projected threats.

TR-1 (FY 1987 - \$9.3 million; FY 1988 - \$24.8 million). The FY 1987 program continues the modification for aircraft weight reduction (\$4.6 million), the NAVSTAR Global Positioning System (GPS) system (\$1.2 million); improved sensor system called Senior Glass (\$.7 million) and Airborne Recorders (\$1.6 million).

The FY 1988 program continues all on-going modification programs and provides funds for avionics improvements.

C-5 (FY 1987 - \$46.8 million; FY 1988 - \$101.5 million). FY 1987 funding initiates efforts on reliability improvements for the C-5A Main Landing Gear Door Actuation System (\$13.6 million), the Malfunction Detection, Analysis and Recording System (MADARS) (\$26.9 million) and the Expanded Fan Speed Indicator for the engine (\$2.3 million).

The FY 1988 program continues existing modifications and initiates reliability and maintainability modifications for both the engine and aircraft. The Automatic Communications Processor improvement also will be added.

C-141 (FY 1987 - \$10.9 million; FY 1988 - \$12.3 million). The funding of \$10.9 million in FY 1987 continues the procurement of two new capability modifications and three enhanced reliability/maintainability modifications: Satellite Communications Antennas (\$6.2 million) and four other low cost modifications.

The FY 1988 program starts two communications enhancement modifications (\$4.6 million).

T-38 (FY 1987 - \$39.5 million; FY 1988 - \$51.1 million). The FY 1987 funding begins a series of structural modifications to ensure the service life of the T-38 beyond the 1990's. These include modifications for a Take Off Auxiliary Air Door (\$2.9 million), Improved Brakes (\$3.7 million), Stage I Compressor Blade Redesign (\$2.7 million) and Gas Filled T-2 Sensors (\$4.2 million). Funding will continue for the Aluminum Flight Control System (\$3.2 million), Command Ejection Seat Selection (\$3.5 million), Dorsal Longeron replacement (\$7.6 million) and the Terrain Model Board (\$6.0 million).

The FY 1988 program continues these modifications and adds additional engine and aircraft structural upgrades to insure operation beyond the 1990's (\$9.8 million).

C-130 (FY 1987 - \$212.9 million; FY 1988 - \$234.6 million). The FY 1987 program continues the following modification programs: improved capabilities for the Special

Operations Forces (\$30.4 million); HC-130H Tanker Conversion for refueling of Combat Rescue and Special Operations Forces' heavy lift helicopter for wartime and contingency tasking (\$5.7 million); a Self-Contained Navigation System (SCNS) to allow the C-130 to operate without external navigation aids in a battle zone where navigation aids may be shut down or jammed (\$62.1 million); Satellite Communications Antennas (\$5.0 million); Inflight Refueling and Avionics Upgrades for EC-130s (\$13.7 million); replacement of currently installed VHF Omni-Directional Range/Instrument Landing System to meet changes required for aircraft flying in the European Theater (\$10.7 million); the conversion of the T56-A9 Engine Torquemeter to reduce vibration and wear (\$1.5 million); and, various reliability/supportability modifications in the amount of \$6.0 million. Various new start modifications are also funded: Radar Warning Receiver Upgrade (\$4.9 million); AC-130H Sensor Improvements (\$4.7 million); Vertical Trailing Wire Antenna (\$7.0 million); APQ-122 Radar Replacement (\$30.2 million); new Compass System (\$1.5 million); VHF/FM Radio Antenna (\$1.9 million) and the second phase of the Low Light Level TV modification (\$18.1 million).

FY 1988 funds continue existing modifications and initiate programs to provide NAVSTAR Global Positioning System (GPS) (\$1.2 million); Single Channel Ground Airborne Radio System (SINCGARS) to permit communication with ground based controllers in the combat area (\$10.3 million); Microwave Landing System (\$10.6 million); New Airborne Command, Control and Communications Capsules, because the existing ones are beyond economical repair and behind state-of-the-art (\$16.9 million); VHF Mission Equipment (\$7.6 million); Auto Comm Processor (\$2.5 million); New Life History Recorder (\$7.3 million); a more effective replacement for the ASD-5; Direction Finder System (\$10.9 million); Circuit Temperature Datum Control (\$3.6 million); and a replacement for the APQ-150 Radar (\$7.4 million).

C-135 (FY 1987 - \$1077.4 million; FY 1988 - \$982.7 million). Funding of \$1077.4 million in FY 1987 is for continuation of the re-engining of the KC-135 tanker aircraft with the CFM56 engine (\$826.2 million). This program, which also includes modification of over 25 subsystems necessary to incorporate the new engine provides an increase of off-load capability equivalent of one and one-half times the current KC-135A configuration. Other modification programs being continued are: Nuclear Hardening/UHF Radio Replacement for the EC-135 series (\$35.6 million), replacement of the lower wing skin to extend service life (\$1.6 million), replacement of the current unreliable MC-1 Autopilot with an off-the-shelf state-of-the-art system in the amount of \$22.9 million; and incorporation of ICBM Airborne Launch Control Capability into EC-135 A/C/G aircraft in the amount of \$32.3 million. New FY 87 initiatives include the Milstar UHF Command Post Transition Upgrade (\$74.5 million), Regency Net (\$9.0 million), upgrade of the MB-26 flight simulators (\$34.8 million), and Airborne Command Post ADP (\$7.6 million).

The FY 1988 program continues existing modifications and initiates new programs for: EC-135C Groundwave Emergency Network Capability (\$9.9 million) and HF Auto Comm Processor (\$5.3 million).

C-137 (FY 1987 - \$0.2 million; FY 1988 - \$0.4 million). FY 1987 funds Federal Aviation Agency (FAA) directed service bulletins that are issued against all C-137 commercial and military aircraft.

FY 1938 funds service bulletins and miscellaneous reliability and maintainability modifications.

C-9 (FY 1987 - \$2 million; FY 1988 - \$7.5 million). The FY 1987 program initiates funding for Source Bulletins (\$8.2 million) to take care of Federal Aviation Administration directed changes. The FY 1988 program initiates seven reliability/maintainability modifications for the C-9 and continues funding for Service Bulletins.

F-3A (FY 1987 - \$33.5 million; FY 1988 - \$32.4 million). The FY 1987 program includes \$32.1 million to fund a modification to provide HAVE QUICK A-NETS for an improved Anti-Jam capability and \$1.4 million for a modification to provide the E-3 surveillance operator a real time indication of radar range.

The FY 1988 program continues modifications initiated in previous fiscal years.

F-4B (FY 1987 - \$16.0 million; FY 1988 - \$12.5 million). Funding of \$16.0 million in FY 1987 includes new modifications to transition the aircraft to MILSTAR communications capability (\$11.1 million) and improve the minimum emergency essential communications transmit capability (\$3.3 million).

The FY 1988 program continues the MILSTAR UHF transition (\$6.1 million) and funds a mod to upgrade the LF/VLF system on the national emergency airborne command post aircraft (\$1.1 million). It also provides funding to add miniature receive terminal receivers to airborne command post aircraft (\$5.1 million).

H-1 (FY 1987 - \$11.2 million; FY 1988 - \$8.8 million). The FY 87 program includes three new start safety modifications: Crashworthy Armored Seat (\$2.7 million); fuel system improvements (\$0.4 million) and improvements to the main transmission (\$4.6 million).

FY 88 continues these modifications and provides for one low cost new start.

H-3 (FY 1987 - \$1.5 million; FY 1988 - \$10.5 million). The FY 87 program initiates one new start safety modification: Crashworthy Armored Seat (\$1.5 million).

FY 88 continues the funding for that modification and provides for one new start: Doppler System Update (\$3.0 million).

H-53 (FY 1987 - \$55.3 million; FY 1988 - \$52.4 million). Funding of \$55.3 million includes continuation of the Service Life Extension Program (\$35.5 million) and two safety modifications: Tail Pylon Replacement (\$7.2 million) and Crashworthy Armored Seat (\$2.7 million).

FY 1988 continues the modification to extend the service life of the H-53 and initiates two new start programs: a new Engine Torque Indicator (\$1.0 million); and an Improved Auxiliary Power Unit Clutch Assembly (\$0.4 million).

KC-10 (FY 1987 - \$6.7 million; FY 1988 - \$7.7 million). Funding of \$4.5 million is requested to initiate a modification to install a cargo loading system on the KC-10 aircraft. The system will allow the transport of pallet-sized loads of equipment and precludes the requirement to preposition wide body aircraft cargo loading equipment. Another \$2.2 million is requested for service bulletins required on all commercial and military DC-10 type aircraft.

FY 1988 continues the cargo loading system modification.

Other Aircraft (FY 1987 - \$153.3 million; FY 1988 - \$107.5 million). In FY 1987, funds are required for follow-on costs of previously initiated modifications as follows: \$39.6 million for HAVE QUICK Anti-Jam Capability Improvements, \$21.3 million for the Standard Combined Altitude Radar Altimeter (CARA), \$4.6 million to improve the reliability of the TTU 205 Field Test Set for Pressure and Temperature used for testing all first line aircraft prior to take-off, \$3.7 million for a reliability improvement to the AN/APN-59E (V) radar, \$31.4 million to replace HF radios with highly reliable state-of-the-art radios, \$40.4 million for the Standard Central Air Data Computer (SCADC), \$6.4 million for replacement of refueling radar beacons and \$2.9 million for various modifications on a variety of aircraft. The one FY 87 new start modification programmed is to provide the NAVSTAR Global Positioning Navigation System (\$1.1 million) training sets to Air Training Command.

The FY 1988 program continues modifications started in previous fiscal years and would initiate four new efforts: a new control head for the ARC-164 (HAVE QUICK) Radio (\$29.9 million); improved common Forward Looking Infrared Module (\$8.7 million); support equipment upgrade (\$1.3 million); and an improved APU fan assembly (\$0.1 million).

T/AT-37 (FY 1987 - \$0.0 million; FY 1988 - \$9.6 million). FY 1988 initiates the Single Channel Army Radio (SINGARS) modification system (\$3.6 million) and a structural modification on the front spar root.

T-43 (FY 1987 - \$0.4 million; FY 1988 - \$0.4 million). FY 1987 funds Federal Aviation Agency (FAA) directed service bulletin that are issued against all C-137 commercial and military (T-43) aircraft.

FY 1988 funds FAA directed service bulletins.

OV-10 (FY 1987 - \$0.0 million; FY 1988 - \$3.4 million). FY 1988 initiates the Single Channel Army Radio System modification.

Classified Projects (FY 1987 - \$91.6 million; FY 1988 - \$90.3 million). These funds are required for the modification of a variety of aircraft and airborne systems used in classified missions which, because of their sensitivity, require the application of special management and security safeguards.

The following table summarizes funds requirements for Fiscal Years 1986, 1987, and 1988 by aircraft/category:

MODIFICATIONS OF IN-SERVICE AIRCRAFT
(\$ IN MILLIONS)

<u>Aircraft/Category</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>	<u>FY 88</u>
A-7	78.1	60.0	14.1	36.7
A-10	71.3	69.5	52.6	46.2
R-52	457.7	416.2	413.4	387.5
FB-111		8.7	3.3	2.4
B-1		31.4	96.4	131.5
C-5	3.2	9.8	46.8	101.5
C-9			0.2	7.5
KC-10		1.0	6.7	7.7
C-130	240.5	180.2	212.9	234.6
C-135	807.4	902.5	1077.4	982.7
C-137			0.2	0.8
C-141	14.9	4.9	10.9	12.3
CLASS	152.6	112.4	91.6	90.3
E-3	64.8	4.1	33.5	32.4
E-4	15.0	20.1	16.0	12.5
F-4	250.8	183.8	119.4	298.4
F-5	3.9	28.5	5.5	6.0
F-15	134.2	106.5	269.0	295.3
F-16	60.2	52.3	87.7	151.4
F-111	212.0	298.7	273.2	257.3
EF-111				60.7
H-1			11.2	8.8
H-3			1.5	10.5
H-53	4.7	87.6	55.3	52.4
OTHER	112.3	109.2	153.3	107.5
TR-1	15.7	9.8	9.3	24.8
A/T-37				9.6
T-38	12.9	27.8	39.5	51.1
T-43			0.4	0.4
C-12	1.3	1.5		
CRAF	128.9	158.8		
OV-10				
SPEC PROJ	181.1			3.4
TOTAL	3023.5	2885.3	3101.3	3424.3

STATUS OF AIRCRAFT MODIFICATION PROGRAMS

FY 1984 Modification of Aircraft
Programs as of 31 Oct 85
(\$ in million)

Program	Total Program Appropriated	Total Reprogramming L/	Total Value	Obligations	Expenditures
Budget Activity No. 5					
P-1 No. 33-65	\$2,704.5	\$+9.0	\$2,713.5	\$2,184.8	\$2,338.8
<u>L/</u> Adjustments result from the following actions:					
- Reprogrammed from B-52 to Classified Projects (-\$2.5M).					
- Transfer from BP 1500 for F-4 INS Replacement (\$25.9M).					
- Reduction from F/RF-4 ALR-74 for Peacekeeper (-\$31.2M).					
- Transfer from F-16 BP 1000 to C-135 for JT3D (1.9M).					
- Congressional reprogramming from C-5B production line for Presidential Communication (\$14.1M).					
- Air Force reprogramming to adjust program to the original Congressional appropriation (\$0.2M).					
- Transfer from BP 1500 for Other Aircraft Mods (\$0.6).					

STATUS OF AIRCRAFT MODIFICATION PROGRAMS

FY 1985 Modification of Aircraft
Programs as of 31 Oct 85
(\$ in million)

<u>Program</u>	<u>Total Program Appropriated</u>	<u>Total Reprogramming L/ Value</u>	<u>Obligations</u>	<u>Expenditures</u>
Budget Activity				
No. 5				
P-1 No. 33-65	\$3,020.3	\$+18.9	\$3,039.2	\$1,782.1
				\$2,321.1
1/ Adjustments result from the following actions:				
- Congressional reprogramming as part of the SEDEF \$4.4B reduction (-\$8.7M).				
- F/FF-4 AIR-74 RWR Upgrade (\$8.2M).				
- Congressional reprogramming to correct the FY 86 PB (\$14.0M).				
- Congressional reprogramming directed by FBD 686. Funds transferred to RDT&E (-\$3.9M).				
- Transfer from BP 1200 for C-135 Centcom aircraft (\$7.3M).				
- E-4 STU-II Comm Upgrade (\$10.0M).				
- Transfer of funds to Reserve Forces for C-131 aircraft (-\$8.0M).				

STATUS OF AIRCRAFT MODIFICATION PROGRAMS

FY 1986 Modification of Aircraft
Programs as of 31 Oct 85
(\$ in millions)

<u>Program</u>	<u>Total Program Appropriated</u>	<u>Total Reprogramming 1/ Value</u>	<u>Obligations</u>	<u>Expenditures</u>
Budget Activity No. 5				
P-1 No. 33-65	\$3,034.7	-\$149.4	\$2,885.3	\$0.2

1/ Adjustments consist of a reprogramming from the F-15 Multi-Stage Improvement Program ASAT (-\$34.5M) and a Congressionally-directed undistributed reduction. (-\$114.9).

(In Millions of Dollars)

Program Requirement - FY88	\$4449.6
Program Requirement - FY87	\$3477.8
Program Requirement - FY86	\$3811.1
Program Requirement - FY85	\$5346.1

ACTIVITY: Aircraft Spares and Repair Parts

PURPOSE AND SCOPE: This activity provides funds for investment items used to repair aircraft and aircraft support equipment. Investment items are defined as repairable assemblies that are centrally procured and managed. The account has two categories: initial spares and replenishment spares. The initial spares category funds spares needed to support initial operations of new aircraft, new aircraft modifications and new airborne equipment purchased through the Other Production Changes account (Electronic Counter Measure Pods, for example). The second category, replenishment spares, provides follow-on spares support for all aircraft and aircraft support equipment. The replenishment spares account finances the bulk of peacetime spares requirements and all wartime spares requirements.

JUSTIFICATION OF FUNDS REQUESTED: The initial spares segment of the account has four parts. Part one, "Initial Weapon System Spares," funds complete spare engines as well as spare parts required to support initial operations of new aircraft. Included in the latter are aircraft spares, engine spare parts and peculiar ground support equipment spares. The second part, "Modification Spares," funds spare parts needed during initial operation of modified airborne systems. Spares to support initial operations of common ground support equipment are included in part three, "Common GSE Spares," while initial operations of equipment financed in the "Other Production Charges" account (such as Electronic Counter Measure Pods) are supported through part four, "Other Production Spares."

The replenishment spares segment of the account has three categories of spares. The first category, Peacetime Operating Stock (POS), supports the peacetime flying hour program FY87 and FY88 funds support FY89 and FY90 flying hours respectively. The second category, War Readiness Spares Kits (WRSK) and Base Level Self-Sufficiency Spares (BLSS), support initial wartime operations. Funds are required for new FY89 kit authorizations and updates. The first two categories of replenishment spares provide our readiness posture. The last category, Other War Reserve Materiel (OWRM), provides spares and repair parts to continue wartime operations until the industrial base can meet wartime production requirements. This is the key to sustainability. Due to fiscal constraints, no funds are requested for OWRM.

The following table compares program funding/requirements by fiscal year:

AIRCRAFT SPARES AND REPAIR PARTS

(In Millions of Dollars)

	<u>FY85</u>	<u>FY86</u>	<u>FY87</u>	<u>FY88</u>
Initial Aircraft Spares	1429.0	937.6	927.8	902.5
Replenishment Aircraft spares	3917.1	2873.5	2550.1	3547.1
Total	5346.1	3811.1	3477.9	4449.6

Initial Aircraft Spares: The initial spares funding requirements are presented in more detail in the following table:

INITIAL AIRCRAFT SPARES

(In Millions of Dollars)

	<u>FY85</u>	<u>FY86</u>	<u>FY87</u>	<u>FY88</u>
Initial Weapon System Spares	1162.0	646.4	586.9*	500.5*
Initial Modification Spares	212.5	181.2	203.1	287.4
Initial Common GSE Spares	23.0	34.7	26.2	27.5
Initial Other Production Spares	31.5	75.3	111.6	87.1
Total Initial Spares	1429.0	937.6	927.8	902.5

*Includes a new segment, "New Acceptance Spares", which are those items currently in the inventory whose inventory level must be increased to support aircraft deliveries. New acceptance spares were previously budgeted and funded by replenishment spares.

The largest segment of the FY87 requirement is for Initial Weapon System Spares. Requested funding of \$586.9 million will support initial operations of the in-production aircraft shown in the following table:

INITIAL AIRCRAFT SPARES REQUIREMENTS

(In Millions of Dollars)

<u>Aircraft</u>	<u>FY86</u>		<u>FY87</u>		<u>FY88</u>	
	<u>Proc</u>	<u>Rqmt</u>	<u>Proc</u>	<u>Rqmt</u>	<u>Proc</u>	<u>Rqmt</u>
ADAC	10	-	20	36.4	60	59.3
B-1	48	142.0	-	-	-	-
F-15	48	73.4	48	133.0	48	149.1
F-16	180	212.9	216	348.7	216	267.6
KC-10	12	70.3	8	-	-	-
AC-130H	1	-	-	-	5	12.3
MC-130H	2	2.9	5	6.7	5	4.8
C-5B	16	109.8	21	16.4	-	-
C-20	8	16.4	-	-	-	-
TR-1/U-2	6	18.7	3	5.8	-	-
VC-X	2	-	-	39.9	-	7.4
Totals		646.4		586.9		500.5

The second largest driver of initial spares requirements is the aircraft modification program. To support initial operations of over 150 modified systems, new spares inventory valued at \$203.1 million will be required. Four modifications account for 40% of the request--KC-135R re-engineing (\$39.6), B-52 Common Strategic Rotary Launcher (\$11.8), F-16 operational capability upgrade (\$24.0), and HH-53 Pave Low III program (\$5.5) A third segment of the request, "Initial Other Production Spares," has experienced significant growth over prior years. The growth is attributed to two programs--Precision Location Strike System (PLSS) and the Low Altitude Navigation and Targeting Infrared System for Night (LANTIRN). An additional \$28.9 million will be required for PLSS and \$29.4 million is needed for LANTIRN.

Replenishment Aircraft Spares: The FY87 Budget reflects the cumulative effects of reduced appropriations in FY86 and reductions in fiscal guidance in FY87. Overall, the replenishment spares account is funded at only 56% of the total FY87 requirement. Funding allocations represent a decision to finance POS at 100%, but only 24% of the WRSK/BLSS. There are no dollars available for OWRM. These reductions are of concern since they will not allow the Air Force to maintain readiness and sustainability at current levels. The Air Force is dedicated to achieving required levels of readiness and sustainability in FY88. The replenishment spares funding requirements are presented in more detail in the following table:

REPLENISHMENT AIRCRAFT SPARES

(In Million of Dollars)

	<u>FY85</u>	<u>FY86</u>	<u>FY87</u>	<u>FY88</u>
POS	2516.1	2345.5	2077.8	2736.5
WRSK/BLSS	808.2	528.0	472.3	810.6
OWRM	592.9	0.0	0.0	0.0
TOTAL REPLEN SPARES	3917.1	2873.5	2550.1	3547.1

A complete breakout of all weapon system requirements and funding follows the narrative discussion.

Peacetime Operating Stock (POS)

The FY87 replenishment spares program fully supports the Air Force's number one readiness initiative, "peacetime training for combat", with full funding of Peacetime Operating Stocks (\$2077.8 million). The requirement is based on an item based, failure/demand driven computation that supports the flying hour program lead time away. The FY89 program of 3.6 million flying hours will be supported with FY87 funds, assuming an average two year leadtime. This is a 5 percent reduction from the flying hours planned in the FY86 budget, dictated largely by fiscal pressures to reduce planned force structure and programmed growth. Failure to provide funds will result in inadequate spares levels to support critical combat training. Without these

spares, available wartime stocks will be used excessively to support peacetime combat training, degrading readiness. The largest drivers of the POS spares request are the B-1B, F-15, F-16 and their supporting engines. As the Air Force increases its inventory for these systems, continued investment is required to replenish and augment existing inventory. In addition, we remain committed to supporting the B-52, replacing many of our spares with more reliable and maintainable systems.

War Readiness Spares Kits/Base Level Self-Sufficiency Spares (WRSK/BLSS): WRSK/BLSS is the prepositioned segment of war reserve materiel maintained at base level with units tasked with wartime missions.

a. War Readiness Spares Kits are air transportable packages of spares that will support specific units tasked to deploy during the first 30 days of a war. The basic configuration of a WRSK is determined by the maintenance concept of the spares, i.e., Remove and Replace (RR) as opposed to Remove, Repair and Replace (RRR). The WRSKs are configured and include both the RR and RRR maintenance concepts depending on the base level repair available at the deployed site. The using major commands and the Air Force Logistics Command determine those essential items to be included in the WRSK. These represent only a small portion of the total number of spares used on a day-to-day basis in peacetime. The quantity of items included in the WRSK are computed using factors such as item wartime failure rates, number of items per aircraft, the wartime flying hour program, base repair time, and item pipeline time. These factors are determined initially when a WRSK is first authorized for new inventories and are reviewed annually with the using commands and System Program Manager to insure that item mix and quantities support the wartime scenario.

b. Base Level Self-sufficiency Spares (BLSS) are spares designed to augment peacetime assets to support the initial increased wartime activity for units that will fight the war in place. BLSS requirements consider the same factors as those used in the WRSK computation, but also consider existing peacetime capability. Those units which are authorized a WRSK are not authorized a BLSS.

The FY87 budget request of \$472.3M provides only minimum essential support for WRSK/BLSS requirements. All new WRSK/BLSS kits authorized for aircraft deliveries of B-1, F-15, F-16, C-5, KC-135R and MC-130 are funded. Additional WRSK/BLSS funds will be used to fund high priority strategic and mobility requirements resulting from annual kit updates. Remaining funds will only satisfy minimal levels of the essential requirements for high priority tactical systems undergoing configuration updates.

Other War Reserve Materiel (OWRM) OWRM is the prestocked segment of war reserve materiel stored in the AFLC depots. These spares are required to sustain forces at wartime levels after peacetime and prepositioned assets are used and until the production base can be expanded to satisfy wartime consumption. The Defense Guidance constrains the requirement objective based on mid-term and long range resource plans. For FY87, OWRM requirements reflect needs to satisfy the mid-term sustainability objectives although no funding is requested due to fiscal constraints. Like WRSK/BLSS, OWRM requirements are also jointly reviewed by the using major commands and Air Force Logistics Command to ensure only combat essential items are designated for OWRM. The resulting OWRM requirements are then reduced by assets available from production, peacetime levels and WRSK/BLSS levels.

Spares Program Issues The DOD spares acquisition reforms and initiatives are largely institutionalized and are an integral part of our spares cost estimates. The FY87 program funding reflects the overall decrease in unit costs due to competition, economic ordering quantities, lower inflation and revised pricing and contracting practices. This has not been without some cost to support increased administrative leadtimes.

Although the Air Force has made significant improvements in readiness and sustainability due to past initiatives and savings investments, fiscal constraints dictate a change in the future. Both tactical and strategic airlift capability assessments are degraded from last years assessments of 100% capability by FY88 for tactical and 100% capability by FY87 for airlift. Major shortfalls now exist in the tactical force readiness and sustainability accounts where only 82% of the FY89 wartime tactical sortie requirement can be supported based on FY87 funding. The strategic airlift cargo ton capability remains high -- 98% supportable in FY89 -- due to strong prior year funding and Air Force allocation priorities. The primary shortfall in airlift is no sustainability funding.

In summary, the FY87 aircraft replenishment spares request will allow the Air Force to fully fund Peacetime Operating Stocks (POS) and minimum essential War Readiness Spares Kit/Base Level Self-sufficiency Spares - the bedrock of Air Force warfighting capability. Combat proficient air crews, ready to deploy and fight, constitute the Air Force's number one readiness objective and is largely dependent upon spare parts availability. However, readiness shortfalls for most tactical WRSK/BLSS updates will limit our ability to maintain the levels we are now achieving due to past funding priorities. In addition, no OWRM sustainability funding affects all forces - tactical, mobility and strategic. Continued major readiness and sustainability shortfalls for FY86-88 will severely degrade Air Force capability to sustain wartime operations in the FY88-90 timeframe.

1/23/85

9.47

8793

AIR FORCE
SP15 AIRCRAFT REPLENISHMENT SPARES: 1987
(\$ IN MILLIONS)

WEAPON SYSTEM	PEACETIME		WASH-PLSS		OWRM	
	TOTAL RCYT	FUNDING	TOTAL RCYT	FUNDING	TOTAL RCYT	FUNDING
A007	12.3	12.3	12.6	0.0	1.5	0.0
A010	45.0	45.0	81.5	0.0	21.4	0.0
B019	551.9	551.9	192.7	192.7	2.0	0.0
B052	110.1	110.1	213.7	0.0	72.1	0.0
B111	16.6	16.6	0.0	0.0	0.0	0.0
E111	7.3	7.3	17.4	7.0	18.5	0.0
F111	73.1	73.1	248.4	0.0	27.2	0.0
CC05	29.9	29.9	13.9	13.9	59.6	0.0
C132	121.9	121.9	21.5	19.4	23.2	0.0
C135	51.6	51.6	14.3	11.2	2.4	0.0
C141	10.7	10.7	8.2	8.2	1.6	0.0
E003	15.1	15.1	0.2	1.3	4.2	0.0
E004	6.9	6.9	0.7	0.0	0.1	0.0
F004	54.9	54.9	205.9	0.0	22.8	0.0
F005	27.2	27.2	0.0	0.0	0.3	0.0
F015	87.1	87.1	104.0	65.2	41.8	0.0
F016	171.2	171.2	221.3	108.6	24.5	0.0
H001	2.3	2.3	1.0	0.7	0.1	0.0
H003	3.3	3.3	5.0	1.0	0.1	0.0
H053	3.9	3.9	6.9	2.0	0.1	0.0
H064	3.0	3.0	1.5	0.2	1.1	0.0
OTHR	42.8	42.8	8.9	0.0	0.1	0.0
T033	0.7	0.7	0.2	0.2	0.0	0.0
T037	14.2	14.2	0.0	0.0	0.0	0.0
T039	18.8	18.8	0.0	0.0	0.0	0.0
T039	0.5	0.5	0.0	0.0	0.0	0.0
ADAC	9.0	9.0	0.0	0.0	0.0	0.0
E100/11	437.2	437.2	40.5	10.9	0.7	0.0
COMN	318.0	318.0	579.7	29.9	129.2	0.0
TOTL	2,247.8	2,247.8	2,303.3	472.0	454.5	2.0

Total SP15 requirement= 4541.7

Total SP15 funding = 2550.1

Total SP15 unfunded = 1991.6

POS includes \$170M of Replenishment authority

1/29/86

9.47

87PB

AIR FORCE
BPS AIRCRAFT REPLENISHMENT SPARES: 1988
(\$ IN MILLIONS)

WEAPON SYSTEM	PERCETIME		WRBK-BLSS		OWRM	
	TOTAL RCMT	FUNDING	TOTAL RCMT	FUNDING	TOTAL RCMT	FUNDING
A007	19.2	19.2	18.8	2.8	3.4	0.0
A010	57.3	57.3	119.5	35.4	24.3	0.0
B01B	597.0	597.0	60.9	9.1	0.0	0.0
B052	127.7	127.7	292.8	43.9	90.7	0.0
B111	26.2	26.2	0.0	0.0	0.0	0.0
E111	12.3	12.3	80.2	10.3	21.9	0.0
F111	136.4	136.4	354.3	68.2	28.2	0.0
C035	58.7	58.7	49.7	49.7	67.0	0.0
C130	122.0	122.0	17.3	15.1	31.2	0.0
C135	70.2	70.2	13.3	8.5	6.5	0.0
C141	22.4	22.4	15.1	15.1	7.8	0.0
E033	25.2	25.2	21.6	21.6	7.4	0.0
E024	7.0	7.0	0.7	0.7	0.2	0.0
F004	93.7	93.7	257.2	38.6	33.2	0.0
F005	27.6	27.6	0.0	0.0	2.1	0.0
F015	112.0	112.0	268.3	152.4	52.7	0.0
F016	234.5	234.5	555.2	251.1	45.1	0.0
H001	2.7	2.7	1.6	1.6	0.3	0.0
H003	3.2	3.2	6.2	6.2	0.4	0.0
H053	10.5	10.5	9.6	9.6	0.3	0.0
H050	0.2	0.2	3.2	2.2	1.2	0.0
OTHR	45.3	45.3	9.8	0.2	0.4	0.0
T033	5.1	5.1	0.0	0.0	0.0	0.0
T037	31.0	31.0	0.0	0.0	0.0	0.0
T038	32.3	32.3	0.0	0.0	0.0	0.0
T039	0.7	0.7	0.0	0.0	0.0	0.0
ADAC	30.5	30.5	0.0	0.0	0.0	0.0
E100/11	514.1	514.1	62.3	21.3	11.4	0.0
COMN	481.5	481.5	571.2	47.0	134.3	0.0
TOTL	2,980.5	2,980.5	2,787.5	810.5	572.1	0.0

Total BPS requirement= 6096.2

Total BPS funding = 3547.1

Total BPS unfunded = 2549.1

POS includes \$170M of Replenishment Authority

WAR RESERVE - SECONDARY ITEMS
AIR FORCE
(\$ IN MILLIONS)

CATEGORY	SIXTH FUND			PERMANENT FUND			TOTAL		
	FY85	FY86	FY87	FY85	FY86	FY87	FY85	FY86	FY87
<u>AIRCRAFT SPARES & REPAIR PARTS</u>									
Requirements	548.7	498.1	566.8	5112.9	6476.0	8624.6	5661.6	6974.1	9191.4
Applicable Assets	390.4	441.2	536.7	3721.5	4769.4	6160.8	4111.9	5210.6	6697.5
Funding Requested	50.8	56.9	30.1	1391.4	528.0	472.3	1442.2	584.9	502.4
<u>MISSILE SPARES & REPAIR PARTS</u>									
Requirements	.	.	.	42.9	56.5	56.5	42.9	56.5	56.5
Applicable Assets	.	.	.	27.8	42.9	56.5	27.8	42.9	56.5
Funding Requested	.	.	.	15.1	13.6	0	15.1	13.6	0
<u>GROUND EQUIPMENT SPARES</u>									
Requirements	.	.	.	191.7	127.9	183.7	191.7	127.9	183.7
Applicable Assets	.	.	.	96.8	11.1	101.1	96.8	91.8	101.1
Funding Requested	.	.	.	0	17.8	81.3	0	17.8	81.3
<u>MEDICAL SUPPLY</u>									
Requirements	229.5	168.5	204.6	-	-	-	229.5	168.5	204.6
Applicable Assets	99.4	131.6	176.0	-	-	-	99.4	131.6	176.0
Funding Requested	32.2	36.9	28.6	-	-	-	32.2	36.9	28.6

Common Ground Equipment

This program is for the procurement of organizational and base level support equipment, both common and peculiar, for out-of-production aircraft, as well as common support equipment for new aircraft entering the inventory. The equipment is used on the flight line and in maintenance shops. The program also provides for the procurement of flight simulators and other training devices for aircraft models that are out of production. It also includes procurement of flight simulators and other training devices for the B-1B. Support equipment includes items that are required to assist or provide a service or maintenance to a weapon system while on the ground. Aircraft support equipment is concentrated in the following Federal Supply Groups (FSG):

FSG 17 - Aircraft launching, landing, and ground handling equipment (trailers, platforms, slings).

FSG 41/43/45 - Compressors, air conditioners, and heaters.

FSG 49 - Maintenance and repair shop equipment (test stands, maintenance stands, fixtures, noise suppressors).

FSG 61/66 - Electrical generators and power distribution equipment, instrument and laboratory equipment, hardness testers and non-destructive inspection equipment.

Other Federal Supply Groups - Pumps, gauges, nitrogen servicing units, and specialized tools.

The following table shows a comparison, by year and category, for support equipment:

(In Millions of Dollars)

<u>NOMENCLATURE</u>	<u>FY 1985</u>	<u>FY 1986</u>	<u>FY 1987</u>	<u>FY 1988</u>
FSG 17	43.3	67.7	70.0	77.9
FSG 49	144.4	171.4	128.4	159.9
FSG 41/43/45	77.2	51.6	22.5	44.0
FSG 61/66	55.5	103.7	73.8	84.0
Other FSGs	40.1	57.5	18.5	44.4
Common Training Equipment (Simulators)*	193.2	83.6	8.2	13.4
TOTAL COMMON GROUND EQUIPMENT	553.7	535.5	321.4	423.6

*FY87 Common Training Equipment includes Simulators for the B-1 and B-52.

(In Thousands of Dollars)

Program Requirement - FY 88 ...	\$4,340,321
Program Requirement - FY 87 ...	4,096,359
Program Requirement - FY 86 ...	2,844,602
Program Requirement - FY 85 ...	2,499,081

ACTIVITY: Aircraft Support Equipment and Facilities

PART I PURPOSE AND SCOPE

This activity provides for common support equipment required to service and test aircraft and their components; for refurbishment and rehabilitation of industrial machinery, equipment and facilities required in the manufacture of items funded by this appropriation; for those war consumable items required to be on hand for immediate use in the event of war; and for other charges such as electronic countermeasure equipment. The activity also provides for procurement of flight simulation equipment for aircraft that are no longer in production except for the B-1B, and for programs not associated with one specific weapon system.

PART II JUSTIFICATION OF FUNDS REQUESTED

The estimate for this activity is comprised of the following items: (In Millions of Dollars)

LINE ITEM	FY 1985	FY 1986	FY 1987	FY 1988
Common Ground Equipment	\$553.7	\$535.5	\$321.4	\$423.6
Industrial Responsibilities	67.5	51.9	38.4	55.5
War Consumables	116.5	83.2	51.1	116.0
Other Production Charges	1761.4	2174.0	3685.5	3745.2
ACTIVITY TOTALS	\$2499.1	\$2844.6	\$4096.4	\$4340.3

Industrial Responsiveness

The Industrial Responsiveness program is part of the Air Force Industrial Base Program and acquisition strategy. The program goal is to ensure an industrial ability capable of supplying needed quantities of reliable systems and components to the operational commanders in peacetime and during times of national emergencies. The program acknowledges the industrial base to be a vital element in national deterrence. Industrial Responsiveness activities provide manufacturing technology, preparedness and productivity analysis to individual weapon system program managers and offers an affordable alternative to procuring prohibitively expensive quantities of fullup war reserves and materials. The program is centralized to give equal consideration to defense acquisition goals that include emphasis on cost reduction, quality, productivity, and preparedness. The Air Force Industrial Base Program attacks these goals cohesively and in an integrated manner to prevent resource duplication. Integrated planning provides the Air Force with an industrial sector snapshot that is not possible from looking at single acquisitions.

The Air Force industrial base strategy involves characterizing segments of the industrial base that are vital to sustainability and have been determined by the Joint Chiefs of Staff and operational commanders to be critical. The resulting data is analyzed and compared with other Service requirements to form hypothesis about weapon system and industrial bottlenecks, deficiencies, strengths, weaknesses, and productivity improvements needs. The analysis is done annually and reported in the Air Force Production Base Analysis to OSD. An investment strategy and recommendations to correct identified industrial deficiencies are part of the analysis. When specific weapon systems are involved, they make the necessary improvements. Generic industrial base improvements, that are beyond the scope of a single program responsibility, are considered for funding through Industrial Responsiveness lines in each procurement appropriation.

The core program includes five acquisition initiatives and responsibilities. They are Industrial Base Planning, Government-Owned Facilities, Manufacturing Technology, Technology Modernization and Production Surge. Four receive Aircraft appropriations. The Manufacturing Technology program is wholly funded with Research, Development, Test and Evaluation appropriations. The programs have individual objectives and benefits. However, they are managed to complement each other and the result is a synergistic effect on the industrial base and the Air Force's ability to procure weapon systems cost-effectively.

The five programs are broken into ten budget categories and compared, year by year, in the following table:

	<u>FY 1984</u>	<u>FY 1985</u>	<u>FY 1986</u>	<u>FY 1987</u>	<u>FY 1988</u>
<u>Industrial Base Planning</u>	2.6	3.3	3.2	2.3	2.9
<u>Facilities</u>					
Expansions	24.8	2.9	0	0	10.1
Packing, Crating & Handling	.1	.1	.1	.1	.2
Capital Type Rehabilitation	21.9	19.4	22.7	10.8	25.3
Modernization and Replacement	0	2.0	.1	.0	.1
Environmental Protection/Restoration	10.0	2.3	10.6	5.0	9.2
Energy Conservation	2.5	7.6	0	0	0
<u>Manufacturing Technology</u>	8.0	0	0	0	0
<u>Technology Modernization</u>	59.6	29.9	15.2	20.2	7.7
<u>Production Surge</u>	0	0	0	0	0
<u>TOTAL Industrial Responsiveness</u>	129.5	67.5	51.9	38.4	55.5

A description of the requirements for each major funding category follows:

Industrial Base Planning: Planning is the unifying force in industrial responsiveness. It ensures Air Force efforts are coordinated with industrial base activities going on in the Federal Emergency Management Agency, the Department of Commerce, the General Services Administration, the National Security and Intelligence agencies and in the other Services so that Air Force actions complement national objectives. Planning involves identifying critical systems and components and then determining the long lead pacing items that would hinder rapid production acceleration during times of national emergency. The 400-500 companies and components identified to be critical to sustainability are targeted for study in an annual Production Base Analysis. The industrial characterization that results is used to make program and budget decisions that are designed to correct deficiencies.

Planning ensures that investments in the industrial base are considered as a viable alternative in determining the best mix of war reserves and hardware to achieve affordable defense. Planning gives the Air Force confidence that various threats can be met and air forces sustained by using the industrial base as a major part of the deterrent strategy in lieu of making additional investments in more expensive end items. FY 1987 efforts will include a Production Base Analysis for most items on the Air Force and Joint Chiefs of Staff Critical Items List. It includes industrial base planning that focuses on Air Logistic Center support contractors, a special analysis of laser applications in manufacturing, a fiber optics assembly-repair and test analysis, and includes support to foreign sourcing and dependencies studies.

Facilities: A second element of the Industrial Base Program funds critical activities at the thirteen government-owned, contractor-operated plants that the Air Force manages. These plants are the backbone of Air Force weapon system production. They are AFP designation PJKS (Martin Marietta) in Waterton, Colorado; AFP #3 (McDonnell Douglas and Rockwell) in Tulsa, Oklahoma; AFP #4 (General Dynamics) in Fort Worth, Texas; AFP #6 (Lockheed) in Marietta, Georgia; AFP #19 (General Dynamics) in San Diego, California; AFP #36 (General Electric) in Evendale, Ohio; AFP #42 (Rockwell, Lockheed, Whittier, McDonnell Douglas) in Palmdale, California; AFP #44 (Hughes Aircraft) in Tucson, Arizona; AFP #59 (General Electric) in Johnson City, New York; AFP #70 (Aerojet) in Sacramento, California; AFP #73 (Thiokol) in Lampo Junction, Utah; and AFP #85 (Rockwell) in Columbus, Ohio. The following weapon systems are produced, stored or tested at these facilities: Titan, Peacekeeper, shuttle components, NASA expendable launch vehicles, B1-B, F-15, Harpoon, F-18 components, F-16, F-111, C-130, C-140, C-5, C-5B, cruise missiles, jet aircraft engines, Minuteman, hydrazone systems, support for U-2 and SR-71, Maverick, NASP, Phoenix, AMRAAM, and TOW.

Ownership of these facilities involves legal and environmental responsibilities for the Air Force even though the burden of maintenance falls on the using contractor. The Air Force facilities policy is to minimize a contractor's reliance on government-owned facilities and to encourage them to replace old, inefficient Air Force owned equipment with privately-owned. The Air Force divested itself of most plants and retains only those that are essential to fulfill production and mobilization requirements. Activities that remain Air Force responsibilities fall into six categories:

- Expansions. These are requirements for real property modifications, brick and mortar-type changes, at the existing Air Force Plants that by Congressional Direction may not be done without notification. They include expansions such as an addition of security lighting and electric capacity to increase detection of unauthorized personnel or the construction of a road to improve the traffic flow entering and exiting an major plant. They may also include construction of new buildings to meet the changing manufacturing environment. FY 1987 funding is not being requested for this program.

- Packing, Crating, & Handling. Required to prepare and transfer idle government-owned equipment to other locations. Unneeded equipment must be removed to make room for new equipment being funded by the contractor. An examination of machinery at AFP #2 at Palmdale, California identified this situation. The excess equipment will be shipped to other sites or to the Defense Industrial Plant Equipment Center at Memphis, Tennessee.

- Capital Type Rehabilitation. These requirements satisfy periodic rehabilitation necessary to maintain the government-owned plants. These projects equate to major repair activities that are beyond the scope of maintenance required for the contractor to do as the tenant. They are landlord magnitude projects. Ten plants require such activity in FY 1987. Among projects are critical fire protection and emergency lighting units at Rockwell, Oklahoma; electrical feeders and chilled water piping at General Dynamics, Texas; siding replacement and air conditioning replacement at Lockheed, Georgia; sealcoating of airfield pavement and improvement of underground water distribution systems at Nero and Associations for the Palmdale, California plant supporting Space Shuttle, SR-71, F-12, B1-B, F-5 and other aircraft operations; asphalt repair and evaporation cooler systems at Northrop, California; security fence and overhead crane overhauls at Lockheed, California; steam heaters and seismic protection hangar doors for Rockwell, California; realuminizing the roof of the manufacturing facility and replacement of compressed air systems at General Electric in New York; and the rerouting of a sprinkler system and electric distribution system at Rockwell in Ohio.

- Modernization and Replacement. This area allows for modernization and replacement of production equipment at Air Force Plants. Air Force policy encourages the contractor to make these investments and no FY 1987 funds are requested.

- Environmental Protection/Environmental Restoration. Protection calls for the compliance to current federal, state, and local laws that regulate environmental control. Restoration calls for correction of past ground, water, and air pollution. Protection funds are required in FY 1987. Restoration funds are part of a separate, Congressional-mandated line item under Department of Defense management. Nine plants plan require environmental protection activity. Replacement of 25,000 gallon fuel tanks with double wall fiberglass tanks at Rockwell, Oklahoma is needed as well as hazardous waste incinerators and pollution abatement projects at General Dynamics, Texas. Replacement of PCB filled transformers and backflow fire protection siphoning control units are needed at Lockheed, Georgia. General Dynamics, California requires removal of asbestos material, PCB transformers and the replacement of underground fuel tanks. Lockheed, California needs to relocate a water well too close to a fuel cell and Rockwell, California requires PCB transformer replacement. The Palmdale plant must construct a hazardous waste storage area and Northrop also requires new transformers. Rockwell in Columbus requires the design and installation of backflow preventors to protect city water supplies.

Technology Modernization: This activity is also known as the Industrial Modernization Incentives Program (IMIP). IMIP is a joint venture between government and industry to accelerate the implementation of modern equipment and management techniques. IMIP is an acquisition tool that contractually links and helps influence aggressive industrial base investments by DOD contractors. The program is designed to give contractors financial incentive to achieve cost reduction through investment in productivity-enhancing equipment. IMIP encourages contractors to make capital investment decisions that they are otherwise not financially incentivized to do. Defense contractor's profits are to a large extent a function of their costs. Combined with a disincentive to invest in cost-reducing and expensive capital equipment, industry has also had to cope with uncertainties in forecasting its business base. The purpose of IMIP is to mitigate or eliminate the effects of negative incentives by offsetting lost profit. This offset is a share of the savings in the form of a productivity savings reward. Its amount is determined in negotiations focused on return on investment calculations. It is paid only if the government is assured that the projected benefits will be achieved.

IMIP's are initiated only where competitive market forces are insufficient to bolster independent contractor investment or where significant benefits will accrue to the government such as cost reduction, elimination of production bottlenecks and improved quality or reliability. The short term objective of IMIP is to reduce cost and lead times of weapon systems. The long term goal is to promote a strong industrial base that can meet surge and mobilization requirements in national emergencies.

Seed funds are often the key to get an IMIP effort started and to get system program offices and contractors to take long term looks at production programs and opportunities and do things more efficiently; to think beyond the current contract and toward future DOD procurement and industrial capabilities. IMIP funds are programmed to impact present and upcoming production programs. IMIP delivers transferable manufacturing processes and management systems to factories through the development of enabling technologies that remove some of the risk involved in implementing promising new technologies onto a factory floor. This motivates the contractor to make capital investments beyond those normally made. Instant contracts receive some benefits from IMIP; however, by the time capital equipment is brought on line and saving begin to accrue, it is normally future contracts that reap the benefits of IMIP's executed today. Once an IMIP project is complete, learning curves and all future cost estimates are revised or must show the reduced manufacturing cost that is the result of the IMIP-related project. Without IMIP, industry has been reluctant to make the investments needed to remain cost competitive with foreign producers. Without IMIP, production programs do not show the dramatic, continued productivity learning that is possible. For example, learning curves on the F-16, that has an IMIP, are still an impressive 86% even after producing over 1000 units. IMIP ensures the most efficient manufacturing techniques are used.

IMIP opportunities exceed the funding available to target the entire defense industrial base. However, resources have a multiplier effect in convincing Air Force program managers, where it makes sense and the business base is stable, to include IMIP activities in their individual program lines. Industrial Responsiveness Funds are targeted for more generic IMIP's and for improving the subcontractor base that supports many Tri-Service weapon systems. The following is a list of IMIP's planned for FY 1987:

- Subcontractor engine parts - Managed by the San-Antonio Air Logistics Center to help solve a 34% delinquency rate of spare and repair parts delivered by subcontractors. Programs that are impacted include A-37, C-5, C-6, C-9, C-131, F-5, F-51, F-102, F-106, O-2, OV-10, T-29, T-37, T-38, T-41, and T-43. Component parts for the F-100 engine, all engine bearing, fuel controls, aircraft instruments, and life support equipment are impacted.
- Air Logistic Center subcontracted parts - Impact to trainer spares, test equipment, modification kits, radars, tele-communications and navigation aids produced by companies like AAI, Singer, Bendix, Norden and General Electric. Ten percent productivity savings are targeted. Over a five year business base this means cost avoidances of \$500 million.
- Menasco, Burbank, California IMIP - Impacted will be critical wheel, brake, and strut end items for B1-B's, P-3C's, C-130's, F-15's, KC-135's, F-4's, F-111's, and C-5's. Aggressive modernization could reduce DOD product costs by ten percent and leadtimes by 40%.
- B.F. Goodrich, Troy and Akron, IMIPs - End items impacted are wheels, brakes, struts and tires for the F-4 and F-16. Anticipated results are the development of a surge capacity to meet national crisis, the reduction of cost by twenty percent and an increase in system performance by ten percent to match the reliability rates of commercial systems.
- Goodyear Aerospace, Ohio, IMIP - End items impacted are wheels, brakes, struts and tires used on almost all aircraft. Cost avoidances of twenty percent are anticipated.
- Singer-Kearfott, New Jersey, IMIP - Company produces a variety of command, control and communications equipment for a variety of aircraft. Results of IMIP would be cost reduction, but there will also be an introduction of automated quality assurance techniques and laser inspection systems onto the production line which represents major manufacturing state-of-the-art advancement.
- Electronic Sector IMIP - Effort targets Electronic System Division subcontractors in support of the MILSTAR, North Warning, Peace Shield and OTH Programs. Efforts will be to ensure productivity initiatives are part of these program decisions. Contractors that will be worked with include Raytheon in Waltham, Massachusetts; Rockwell-Collins in Cedar Rapids, Iowa; Bell Aerospace in Buffalo, New York; General Electric in Syracuse, New York; Sanders Associates in Nashua, New Hampshire; Hazeltine in Greenlawn, New York; Sims Castings in Syracuse, New York; Pneumafil Corporation in Charlotte, North Carolina; AVANTEK in Santa Clara, California; Wendon Company of Stanford, Connecticut; Rogers Corporation of Chandler, Arizona; ILC of Bohemia New York; Jacob Casting of Pottstown, Pennsylvania; Falstrom Company of Passaic, New Jersey and AVDIN of Horsham, Pennsylvania.

- Industrial Technology Modernization, General Dynamics, managed through the F-16 Program Office and targeted at the sixty most critical subcontractors on the F-16 and other programs. These companies represent 60% of the cost of the F-16 program. Aggressive modernization is expected to yield cost avoidances on the program of over one billion dollars. Contractors already on the program include Westinghouse, Simmonds Precision, Sperry, Tracor, Delco, Goodyear (Arizona), Airesearch, Sunstrand, Aerospace Avionics, Sierracin, Arkwin, Menasco, Gull Airborne, TRW (Cleveland), Honeywell, National Waterlift, Amfuel, Texstar, Leach, Parker Hannifin, Applied Technology, Dynamic Controls, OEA, SCI Systems, and Lear Siegler.

- C-17A, Douglas Aircraft, Subcontractor IMIP - The C-17 program plans to work with their subcontractors in a similar fashion to the F-16. Benefits from such action could yield DOD savings in excess of \$500 million dollars. Benefits accrue not just to the sponsoring program, but to all weapon systems that have work in the factory where the IMIP is underway. IMIP's stress total factory analysis. This is necessary to ensure that productivity initiatives complement other factory operations and that costs saved in one area have not been transferred to other areas.

- SEEK RAM IMIP - End item impacted will be the one billion dollar electronic warfare pods that are used on F-16, F-15, A-10, F-111, and F-4 aircraft. Emphasis will be to ensure productivity, reliability and producibility are of prime concern during the design process for this system. Cost avoidance on the program of \$80 million anticipated.

- Joint Service Radar Productivity IMIP - End item are F-14, F18, and F-15 radars produced by Hughes Aircraft Corporation. Factory modernization and the introduction of modern management systems could dramatically improve the quality of systems being produced at Hughes. Resulting cost avoidance for the Services of over \$40 million dollars during the next five years could be achieved.

- Traveling Wave Tube IMIP - End items are the most critical and long lead component of fighter aircraft electronic warfare systems. The production of these units is labor intensive and yield rates are notoriously low. Efforts to improve the industry are targeted at the prime producers of American tubes, Teledyne and Varian. Systems impacted are the ALQ 161, 165, 135, 94, 137, 99, 117, 172, 131, 126B, 162, the SLQ 32 and the AMRAM. This is a four billion dollar industry. Modest yield improvements could save DOD \$12 million per year.

- Propulsion Sector IMIP - Managed by the Propulsion program office at Wright-Patterson AFB and targets the critical producers of Air Force propulsion systems to include Pratt and Whitney, General Electric, Garrett and the many subcontractors that supply components. Targeted are cost and leadtime drivers like airfoil, disk, shaft, gear box, fuel controls, forgings, and casting. Impact is to F100, F101, F103, F107, F108, F109, F110, F404, T700, TF30, ATE3, TFE731, PW1120, PW1128, PW2037, PW5000, J52 and TF39 military engines. Benefits being achieved on this program exceed 4 to 1 cost avoidance for every dollar invested, have shown reductions to lead time, reduction to scrap rates and the conservation of critical materials. Contractors project cost reductions of twenty-five percent are possible through aggressive modernization.

War Consumables

The funds requested, along with prior funded assets, will provide additional wartime support needed, in the event of hostilities to sustain operations until such time as production can be expanded to provide the required level of support. Included in this program are auxiliary fuel tanks, missile launchers, pylons, bomb ejection racks, and adaptors which are consumed during wartime and peacetime operations or are required to provide initial alternate mission equipage for new inventory items.

The following is a breakout, by fiscal year, of the War Consumables program:

BP 1700 WAR CONSUMABLES

FY 1987 PRESIDENT'S BUDGET REQUEST

(\$ MILLIONS)

	<u>FY 1985</u>		<u>FY 1986</u>		<u>FY 1987</u>		<u>FY 1988</u>	
	<u>QTY</u>	<u>\$</u>	<u>QTY</u>	<u>\$</u>	<u>QTY</u>	<u>\$</u>	<u>QTY</u>	<u>\$</u>
<u>FUEL TANKS</u>								
650 GALLON CW TANK (H-53)	361	3.791	-	-	-	-	-	-
370 GALLON TANK/PYLON (F-16)	3832	61.531	2536	61.892	1680	15.203	6000	56.466
300 GALLON TANK (F-16)	1000	8.676	-	-	-	-	-	-
200 GALLON CW TANK (H-3)	1126	8.388	-	-	-	-	-	-
370 GALLON BIPNC CONTAINER	2092	4.464	-	-	-	-	-	-
<u>MISSILE LAUNCHERS</u>								
LAUNCHER ELECTRONICS UNIT (LEU) FOR LAU-88	1175	16.723	1175	14.878	1173	13.978	-	-
LAU-117 (F-4/A-10/F-16)	541	3.652	541	4.222	454	4.225	-	-
LAU-118 (F-4G)	66	1.452	96	2.208	-	-	-	-
LAU-128/129 (F-15/F-16)	-	-	-	-	576	17.694	1635	59.534
<u>BOMB RACKS</u>								
TER-16 (F-16)	953	7.823	-	-	-	-	-	-
<u>TOTAL</u>		<u>116.500</u>		<u>81.200</u>		<u>51.100</u>		<u>116.000</u>

Other Production Charges

This program provides for items, such as Classified Projects, Alternate Mission Equipment, and Range Improvement, that are not directly related to other procurement lines in this appropriation and cannot be reasonably allocated and charged thereto. It also includes items, such as Electronic Countermeasures (ECM) Pods, The Precision Location Strike System, LANTIRN, NAVSTAF GPS, that are used by more than one weapon system and managed as end items themselves. The following provides a comparison, by fiscal year, of the items in this program:

	(In Millions of Dollars)*			
	FY 1985	FY 1986	FY 1987	FY 1988
Classified Projects	1306.3	1478.0	2476.2	2470.3
ECM Pods	237.6	180.8	193.1	298.7
Airborne Video Tape Recorder/ Cockpit TV Sensor	7.2	5.4	5.6	2.9
Alternate Mission Equipment	12.6	2.0	6.8	15.0
Range Improvement	5.3	16.8	7.9	26.2
LANTIRN	90.0	420.7	756.7	741.4
Precision Location Strike System	94.3	43.0	52.8	-
NAVSTAR Global Positioning System	8.0	27.3	42.4	102.3
Sailplanes	-	-	0.2	-
GBU-15	-	-	-	16.9
Self Protection Systems	-	-	143.8	71.4
Total Other Prod Charges	1761.4	2174.0	3685.5	3745.2

*Dollars may not add due to rounding.

Justification for the various line items is as follows:

Classified Projects:

Includes the Air Force Tactical Improvement Program and several National defense projects which are classified Special Access.

ECM Pods:

Includes the procurement of new pods, such as the ALQ-131, and update of inventory pods, such as the ALQ-119, to maintain capability to counter the latest Soviet threats. The pods are used on several tactical strike/reconnaissance aircraft.

Airborne Video Tape Recorder (AVTR)/Cockpit TV Sensor (CTVS):

The AVTR records all audio available at the aircrew headset and all video displays on the radar/Electro-Optical display and head-up display (HUD). Aircrews, maintenance crews, and combat and training units use the video tape recordings to analyze mission and training results and for maintenance trouble shooting. The AVTR and CTVS will be common to the entire tactical force. The CTVS will replace the existing gun camera which employs film; the advantage is that no film processing is required, making the data available for use immediately after landing. The CTVS will provide imagery data to the AVTR for recording, including a splitscreen presentation for multiple video sources.

Alternate Mission Equipment:

The program procures electronic warfare and airborne photography/reconnaissance equipment to provide countermeasure capabilities against changing enemy electronic defenses or for other unpredicted and urgent operational requirements.

Range Improvement:

This is a joint Air Force/Navy program to procure pods which provide accurate kill/no kill data for assessment of tactics and aircrew training at the Air Combat Maneuvering Range. The pod is mounted on a standard launch rail and transmits attitude, airspeed, altitude, angle of attack, and weapons information to ground sites.

Low Altitude Navigation and Targeting Infrared System for Night (LANTIRN):

Includes procurement of new pods to provide a night, under weather capability on the F-16, and F-15E aircraft to attack ground targets on low level mission in a single pass.

Precision Location Strike System (PLSS):

PLSS is designed to locate, identify, and guide standoff weapons or attack aircraft on enemy emitters in all-weather conditions throughout the theater of operations. This effort funds the baseline location mission PLSS. The strike mission funding is provided in the appropriate aircraft and weapon lines in accordance with Congressional intent.

NAVSTAR Global Positioning System:

NAVSTAR GPS is a space-based radionavigation system which will provide users their position (accurate to 16 Meters), velocity (.1 meters per sec) and time (.1 microsecond) on a 24 hour per day, all weather, worldwide basis. The GPS satellite segment is in production and will provide an initial operational capability in FY 1987 and its full capability in FY 1988. The DoD policy is for GPS to replace all existing radionavigation systems on military aircraft by the mid 90's. This appropriation funds NAVSTAR GPS user avionics for all USAF aircraft plus the Air Force share of GPS production start-up costs.

Sailplanes:

This program provides funding to procure powered Sailplanes for the Air Force Academy in sufficient quantities to provide every cadet with the opportunity to solo. Soloing every cadet is essential to increasing career motivation.

Self Protection System:

This program provides improvements to the F/FB and EF-111 self-protection suits.

COMPARISON OF FY 1985 PROGRAM REQUIREMENTS AS REFLECTED
IN FY 1986 BUDGET WITH FY 1985 PROGRAM REQUIREMENTS AS
SHOWN IN FY 1987 BUDGET

SUMMARY OF REQUIREMENTS (In Thousands of Dollars)

	Total Program Requirements Per 1986 Budget	Total Program Requirements Per 1987 Budget	Increase + or Decrease -
Combat Aircraft	\$12,710,600	\$12,005,283	-\$705,317
Airlift Aircraft	1,932,000	1,988,858	+56,858
Trainer Aircraft	126,000	120,700	-5,300
Other Aircraft	219,800	239,962	+20,162
Modification of In-Service Aircraft	3,074,785	3,023,540	-51,245
Aircraft Spares and Repair Parts	5,325,900	5,346,100	+20,200
Aircraft Support Equipment and Facilities	2,688,981	2,499,081	-189,900
Reimbursable Program	279,020	212,057	-66,963
Total Fiscal Year Program	\$26,357,086	\$25,435,581	-\$921,505

EXPLANATION BY BUDGET ACTIVITY

1. Combat Aircraft - (-\$705.3 million). The decrease is a net result of: Congressional set aside of Prior year unobligated balances for known and anticipated requirements of the Department of Defense (B-1B, -\$200.0 million; MC-10A, -\$18.6 million; F-16, -\$406.7 million; F-15, -\$9.1 million) and the net result of prior approval and below threshold reprogrammings (MC-130H, +\$7.1 million; F-15, -\$14.0 million; F-16, -\$64.0 million).
2. Airlift Aircraft - (+\$6.9 million). The increase is a net result of: Congressional set aside of Prior year unobligated balances for known and anticipated requirements of the Department of Defense (C-130, -\$18.0 million) and the net result of prior approval and below threshold reprogrammings (C-12D, +\$9.9 million); as well as a restoral from an anticipated reprogramming (C-5B, +\$65.0 million).
3. Trainer Aircraft - (-\$5.3 million). The decrease is a result of the Congressional set aside of Prior year unobligated balances for known and anticipated requirements of the Department of Defense (T-46A, -\$5.3 million).
4. Other Aircraft - (+20.2 million). The increase is a net result of prior approval and below threshold reprogrammings (CAP, +\$1.9 million; Range Control A/C, +\$18.3 million).
5. Modification of In-Service Aircraft - (-\$51.2 million). The decrease is a net result of: Congressional set aside of Prior year unobligated balances for known and anticipated requirements of the Department of Defense (B-52, -\$8.0 million; C-131, -\$8.0 million; C-135, -\$36.4 million) and an anticipated reprogramming to Research Development Test and Evaluation (F-15 mod, -\$3.9 million), as well as, the net result of prior approval and below threshold reprogrammings (various mods, +\$5.1 million).
6. Aircraft Spares and Repair Parts - (+\$20.2 million). The increase is a net result of prior approval and below threshold reprogrammings (various Replen Spares, +\$31.0 million; various Initial Spares, -\$10.8 million).
7. Aircraft Support Equipment and Facilities - (-\$189.9 million). The decrease is a net result of: Congressional set aside of Prior year unobligated balances for known and anticipated requirements of the Department of Defense (Common Ground Equipment, -\$50.6 million; Other Production Charges, -\$103.9 million) and the net result of prior approval and below threshold reprogrammings (Common Ground Equipment, -\$23.9 million; Other Production Charges, -\$12.1 million).
8. Reimbursable Program - (-\$67.0 million). The decrease is a result of receipt of fewer customer orders than anticipated.

COMPARISON OF FY 1985 FINANCING AS REFLECTED
IN FY 1986 BUDGET WITH FY 1985 FINANCING AS
SHOWN IN FY 1987 BUDGET

	(In Thousands of Dollars)		Increase (+) or Decrease (-)
	Financing Per FY 1986 Budget	Financing Per FY 1987 Budget	
Program Requirements.....	26,357,086	25,435,581	-921,505
Program requirements (Service Account).....	(26,078,066)	(25,223,524)	(-854,542)
Program requirements (Reimbursable).....	(279,020)	(212,057)	(-66,963)
Less:			
Anticipated Reimbursements.....	279,020	212,057	-66,963
Add:			
Transferred to other accounts	110,200	100,742	-9,458
Unobligated Balance to Finance Subsequent Year Budget Plan.....	-	864,000	+864,000
Appropriation.....	26,188,266	26,188,266	0

EXPLANATION OF CHANGES IN FINANCING

The Fiscal Year 1985 program has decreased \$921,505 thousand since submission of the FY 1986 budget. Adjustments by category of financing are explained below:

1. Reimbursements. The decrease of \$66,963 thousand is due to receipt of fewer customer orders than anticipated.
2. Transferred to Other Accounts. The increase of \$9,458 thousand is due to an anticipated reprogramming from the Aircraft procurement appropriation not occurring.
3. Unobligated Balance to Finance Subsequent Year Budget Plans. The decrease of \$864,000 thousand is the result of Congressional action on FY 85 unobligated balances during the FY 1986 appropriation process.

COMPARISON OF FY 1986 PROGRAM REQUIREMENTS AS REFLECTED
IN FY 1986 BUDGET WITH FY 1986 PROGRAM REQUIREMENTS AS
SHOWN IN FY 1987 BUDGET

SUMMARY OF REQUIREMENTS (in Thousands of Dollars)

	Total Program Requirements Per 1986 Budget	Total Program Requirements Per 1987 Budget	Increase + or Decrease -
Combat Aircraft	\$11,639,800	\$10,716,500	-\$923,300
Airlift Aircraft	2,436,900	2,476,500	+39,600
Trainer Aircraft	206,100	0	-206,100
Other Aircraft	540,000	296,500	-243,500
Modification of In-Service Aircraft	2,917,817	2,885,317	-32,500
Aircraft Spares and Repair Parts	4,934,581	3,811,105	-1,123,476
Aircraft Support Equipment and Facilities	3,490,302	2,844,602	-\$645,700
Reimbursable Program	290,110	199,500	-90,610
Total Fiscal Year Program	\$26,455,610	\$23,230,024	-\$3,225,586

EXPLANATION BY BUDGET ACTIVITY

1. Combat Aircraft - (-\$923.3 million). The decrease is a net result of Congressional adjustments to the FY 1986 request (AOI Integration, -\$26.8 million; Air Defense Competition, +192.0 million; B-1B, -508.9 million; KC-10A, -\$30.6 million; AC-130H, +\$33.4 million; MC-130H, -\$21.9 million; F-15 C/D, -\$250.0 million; F-16 C/D, -\$383.7 million) and an anticipated reprogramming within the Aircraft Procurement Appropriation (MC-130H, +\$73.2 million).
2. Airlift Aircraft - (+\$39.6 million). The increase is the new result of Congressional adjustments to the FY 1986 request (C-59, -\$204.3 million; C-20A, -\$21.1 million; Air Force One replacement, +\$280.0 million) and an anticipated reprogramming to Research Development Test and Evaluation (C-59, -\$15.0 million).
3. Trainer Aircraft - (-\$206.1 million). The decrease is the net result of Congressional adjustments to the FY 1986 request (T-46A, -\$27.2 million) and due to contractor cost and schedule difficulties the Air Force has not programmed any funds for the T-46A (-\$178.9 million) after FY 1985.
4. Other Aircraft - (-\$243.5 million). The decrease is the net result of Congressional adjustments to the FY 1986 request (A199A, -\$80.1 million; HH-60, -\$51.6 million; TR-1/U-2, -\$47.4 million) and an anticipated reprogramming within the Aircraft Procurement Appropriation (HH-60, -\$64.4 million).
5. Modification of In-Service Aircraft - (-\$32.5 million). The decrease is the net result of Congressional adjustments to the FY 1986 request (various mods, +\$2.0 million) and an anticipated reprogramming to Research Development Test and Evaluation (-\$34.5 million).
6. Aircraft Spares and Repair Parts - (-\$1,123.5 million). The decrease is the net result of Congressional adjustments to the FY 1986 request (-\$1108.3 million) and two anticipated reprogrammings; to Research Development Test and Evaluation (-\$7.1 million) and within the Aircraft Procurement Appropriation (-\$8.1 million).
7. Aircraft Support Equipment and Facilities - (-\$645.7 million). The decrease is the net result of Congressional adjustments to the FY 1986 request (-\$656.3 million) and an anticipated reprogramming from other DOD Defense Agencies (+\$10.6 million).
8. Reimbursable Program - (-\$90.6 million). The decrease is a result of fewer customer orders than anticipated.

COMPARISON OF FY 1986 FINANCING AS REFLECTED
IN FY 1986 BUDGET WITH FY 1986 FINANCING AS
SHOWN IN FY 1987 BUDGET

	(in Thousands of Dollars)		
	Financing Per FY 1986	Financing Per FY 1987	
	Budget	Budget	
		Increase(+) or Decrease(-)	
Program Requirements	26,455,610	23,230,024	-3,225,586
Program requirements (Service Account).....	(26,165,500)	(23,030,524)	(-3,134,976)
Program requirements (Reimbursable).....	(290,110)	(199,500)	(-90,610)
Less:			
Anticipated Reimbursements.....	290,110	199,500	-90,610
Transferred From Other Accounts.....	-	10,600	+10,600
Add:			
Transferred to other accounts	-	56,600	+56,600
Unobligated Balance to finance subsequent year budget plans.....	-	178,900	+178,900
Appropriation.....	26,165,500	23,255,424	-2,910,076

EXPLANATION OF CHANGES IN FINANCING

The Fiscal Year 1986 program has decreased \$3,225,586 thousand since submission of the FY 1986 Budget. Adjustments by category of financing are explained below.

1. Anticipated Reimbursements. The decrease of \$90,610 thousand is due to receipt of fewer customer orders than anticipated.
2. Transferred from Other Accounts. The increase of \$10,600 thousand is due to an anticipated reprogramming into the Aircraft Procurement Appropriation.
3. Transfer to Other Accounts. The decrease of \$56,600 thousand is due to anticipated reprogrammings from the Aircraft Procurement Appropriation.
4. Unobligated Balance to Finance Subsequent Year Budget Plans. The decrease of \$178,900 thousand is due to the Air Force deciding not to program funds for procurement of the T-46A because of cost and schedule difficulties.
5. Appropriation. The decrease of \$2,910,076 is the result of Congressional adjustments to the FY 1986 Budget.

February 1986
FY 87 President's Budget

FLIGHT SIMULATOR & OTHER TRAINING EQUIPMENT
(Dollars in Millions)

APPROPRIATION: Aircraft Procurement, Air Force

Weapon System	Type	Line Item	FY 85		FY 86		FY 87		FY 88	
			Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
R-1B	WST & MT	67	2	83.9	2	67.6				
	CPT	67	6	28.7						1.6
	SSC	67		3.0						
	ERS	67		1.5						
	MTE	67		15.1						
	Spares	66		5.6						
	TOTAL		2/6	137.8	2	75.1		1.5		1.6
C-5	ATS(WST/CPT)	16			*	21.9				
	ARPTT	16	3	14.5						
	MTE	16	11	18.5						
	Spares	66		1.1						
	TOTAL		3/11	34.1	*	21.9				
C-141	ARPTT	67	3	18.2						
	Spares	66		1.1						
	TOTAL		3	19.3						
EF-111A	OFT	67	1	23.4						
	Spares	66		2.0						
	TOTAL		1	25.4						
F-15A/C F-15F	OFT	6		5.0	1	17.0				
	WST	6			1	32.2	1	36.7	1	32.4
	CPT	6		.5	1	1.7	3	1.0	2	.5
	MTE	4		66.4		67.3		28.2		23.6
	TOTAL			71.9	1/1/1	118.2	1/3	65.9	1/2	56.5
F-16C/D	WST	8	8	128.6	7	76.2	3	115.6	3	82.2
	PTT	8				.7		1.0		1.9
	MTE	8		24.6		59.0		25.6		43.7
	TOTAL		8	153.2	7	135.9	3	142.2	3	127.8
KC-10A** MS	CPT/ROPTT	11	3	53.4						
		11	3/3	15.7						
	TOTAL		3/3/3	69.1**						
C-130	VISUAL SYSTEM	67	3	18.7	2	13.6				
			3	18.7	2	13.6				

FLIGHT SIMULATOR & OTHER TRAINING EQUIPMENT
(Dollars in Millions)

APPROPRIATION: Aircraft Procurement, Air Force		FY 85		FY 86		FY 87		FY 88	
Weapon System	Type	Line Item	Qty	Amt	Qty	Amt	Qty	Amt	Qty
T-46A	MTE	25		2.3					
	TOTAL			<u>2.3</u>					
A-10	MTE	67							
	TOTAL			<u>2.4</u>					
F-4	PTT (GBU-15)	67					2	7.8	
	Total						<u>2</u>	<u>7.8</u>	
F-111	PTT (GBU-15)	67					1	4.0	
	TOTAL						<u>1</u>	<u>4.0</u>	

TOTAL 53 367.1 209.6 197.7

* Quantities are for the basic hardware only. The 5 ATS include computer based instruction (CBI).

** The KC-10A contract calls for acquisition of a complete training system to include training devices as required. The acquisition of the various devices is not priced separately. The training equipment to be procured is to include at each of three sites: KC-10 Mission Simulator; KC-10 Cockpit Procedures Trainer; and Room Operator Trainer.

LEGEND:		Aerial Gunnery Part Task Trainer		Part Task Trainer	
AGPTT	Aerial Gunnery Part Task Trainer	PTT	Weapon System Trainer	WST	Aircrew Training System
ARPTT	Aerial Refueling Part Task Trainer	WST	Software Support Center	SSC	Engineering Research Simulator
BOPTT	Boom Operator Part Task Trainer	ATS		ERS	
CPT	Cockpit Procedures Trainer	SSC			
MS	Mission Simulator	ERS			
MTE	Maintenance Training Equipment				
OFT	Operational Flight Trainer				

FLIGHT SIMULATOR DATA SHEET
Budget Year Program

Simulator Model: B-1B

Aircraft System Supported: B-1B

Description of Simulator: The B-1B Simulator System (SS) program includes three major aircrew training devices (ATDs): Weapon System Trainers (WST), Cockpit Procedures Trainers (CPTs), and Mission Trainers (MTs). WST provides high fidelity simulation for all four crew positions in the aircraft. It's comprised of two physically separate stations: flight station (pilot and copilot) and aft station (offensive and defensive crew members). The total aircraft envelope will be simulated as well as aircraft handling qualities and all aircraft systems within the flight station. The flight station will be equipped with a six degree-of-freedom motion system. The aft station will be equipped with a motion system to provide the necessary motion cues which impact training of the B-1B offensive /defensive crewmembers. A color, day/night, computer image generated visual system will provide visual scenes for taxi, take-off, landing, aerial refueling, and terrain following/terrain avoidance. The offensive position will include simulation of navigation, weapons delivery, and all equipment at the offensive station in the B-1B aircraft. A digital radar landmass system (DRLMS) will simulate all modes of operation of the B-1B radar. The defensive position will include simulation of all equipment at the defensive station in the aircraft. MT provides high fidelity simulation for the offensive/defensive stations. The MTs are stand-alone trainers and are designed with a maximum amount of commality with the aft station of the WST, except no motion exists on the MTs. The CPT provides low fidelity simulation for all four crew positions in either an independent or integrated training mode. The CPTs are for training Safety of Flight procedures and limited crew coordination. The CPT is designed to provide basic hands-on training to B-1B aircrew members initially qualifying in the aircraft. Five WSTs, two MTs, and six CPTs will be procured. Both MTs and all six CPTs will be placed at Dyess AFB for use in the Combat Crew Training Squadron (CCTS). Two WSTs will also be at Dyess AFB; one to support the CCTS and the other to support the operational wing's training requirements. One each of the three remaining WSTs will be placed at the other B-1B operating bases, Grand Forks AFB, Ellsworth AFB, and McConnell AFB.

Development Status: The B-1B Simulator System is currently in its second phase of the program. The first phase was the competitive development of the data base required for final full scale development and production with a single prime integration contractor. As of Aug 85 the FSD effort had progressed to the point of CDR and the first of the two contractual options were exercised. The second option is to be exercised in May of 86 for the remaining WSTs and MTs.

Funding Data: (In Millions)	FY 1985	FY 1986	FY 1987	FY 1988
Quantity	(9)	(4)	(0)	(0)
RD&E	\$51.804	\$39.403	\$13.700	\$ 761
Procurement	117.100	67.600	1.500	1.600
MILCON	---	---	---	---
Total	\$168.904	\$107.003	\$15.200	\$2.361

Basis for FY 198Y Request: Funds required in FY 87 are required to perform the necessary in-plant government test, delivery of the prototype WST, installation, and on-site acceptance of the FY 87 deliverable items.

Contract Data: The prototype WST and production articles are being procured under a Fixed Price Incentive contract. The RD&E FPI contract was awarded in Oct 1984. The first production option was awarded in Aug 85. The second option is to be awarded in May 86. The delivery schedule is as follows:

Delivery of CPTs 1 and 2	Jun 86
Delivery of CPTs 3 and 4	Dec 86
Delivery of CPTs 5 and 6	Feb 87
Delivery of prototype WST	Oct 87
Delivery of production WST No. 1	Mar 88
Delivery of production WST No. 2	Jun 88
Delivery of MT No. 1	Jul 88
Delivery of production WST No. 3	Aug 88
Delivery of MT No. 2	Aug 88
Delivery of production WST No. 4	Oct 88

The prime contractor is Boeing Military Airplane Company, Huntsville, AL. Subcontracts to Boeing are Rediffusion Systems Limited, Crawley, Sussex, England; Gould, Ft Lauderdale FL; Boeing Aerospace Company, Seattle WA; Cubic Corp, San Diego, CA; Digital Cartographics Systems Inc (DCSI), Englewood CO; and Flight Safety International, Newport Beach, CA.

Cost History Comparison: N/A

FLIGHT SIMULATOR DATA SHEET
Budget Year Program

Simulator Model: F-15E Weapon System Trainer

Aircraft System Supported: F-15E

Description of Simulator: The F-15E WST will train both pilot and weapon system officers and will include Low Altitude Navigation and Targeting Infrared System for Night (LANTIRN) simulation. The trainers will be a modification to the design of the F-15 Operational Flight Trainer already being manufactured by Goodyear Aerospace Corp. Six WSTs will be procured.

Development Status: In FY 1985, the development contract for the WST was awarded and the Request for Proposal for production of the first WST with priced options for units 2 and 3 was released. In FY 1986, the Preliminary Design Review (PDR) and Critical Design Review will be completed. Detailed design of the flight station, instructor station, computational system, and LANTIRN simulation will continue. Fabrication of cabling assemblies will begin and the production contract will be awarded.

Funding Data:
(In Millions)

	<u>FY 1985</u>	<u>FY 1986</u>	<u>FY 1987</u>	<u>FY 1988</u>
Quantity	(0)	(1)	(1)	(1)
RDT&E	\$12.1	\$15.3	\$ 6.4	\$.2
Procurement	0	33.9	37.7	32.9
MILCON	---	---	---	---
Total	\$12.1	\$48.9	\$44.1	\$33.1

Basis for FY 1987 Request: In FY 1987, hardware/software integration and contractor in-plant tests will be completed. Government in-plant tests will be initiated and the production option for unit numbers 2 and 3 will be exercised. OSD guidelines do not apply-project initiated prior to FY 1986.

Contract Data: FFP to Goodyear Aerospace Corp.

Cost History Comparison: N/A

FLIGHT SIMULATOR DATA SHEET
Budget Year Program

Simulator model: F-16 Weapon System Trainer (WST).

Aircraft System Supported: F-16 aircraft.

Description of Simulator: The F-16 WST is comprised of an Operational Flight Trainer (OFT), an Electronic Warfare Training Device (EWTd) and a Digital Radar Landmass Simulation (DRLMS). The EWTd will be used to train pilots in the electronic warfare aspects of their mission. The DRLMS will simulate the Air-To-Ground (A/G) modes and displays of the F-16 Fire Control Radar (FCR) using a Defense Mapping Agency (DMA) Digital Data Base (DDB). Three WSTs deployed to the training sites will be equipped with a limited field-of-view Night Visual System (NVS). The WSTs are developed using a "Building-Block" and phased approach in consonance with the Tactical Air Forces (TAF) F-16 aircraft deployment plan.

Development Status: N/A

<u>Funding Data:</u> (In Millions)	<u>FY 1985</u>	<u>FY 1986</u>	<u>FY 1987</u>	<u>TFY 1988 + 1</u>
Quantity	(8)	(7)	(3)	(3)
RDT&E	-	-	-	-
Procurement	\$128.6M	\$ 76.2M	\$115.6M	\$ 82.2M
MILCON	-	-	-	-

Basis for FY 1987 Request: F-16 WST FY 87 budget is based on the following requirements:

- 3 - F-16C Operational Flight Trainers (OFTs) to provide "safety-of-flight" trainers for active units.
- 2 - Improved Electronic Warfare Training Devices (IEWTDs) for F-16C EW training. Requirements for IEWTds stressed by F-16 WST General Officer Review, Dec 85.
- 2 - LANTIRN simulators to be integrated with Block 30G OFTs to provide LANTIRN training.
- Block 30G Operational Flight Trainer (OFT) update for modification and production incorporation. Required to provide "safety-of-flight" OFTs for Block 30G aircraft.

Contract Data:

OFT Blk 10/15 and Blk 25/30	FFP	F33657-84-C-0173, Options
OFT Blk 30G	FFP	F33657-82-C-0138, Options
IEWTD	FFP	New Contract
LANTIRN	FPI	New Contract

The contractor for the Operational Flight Trainer is the Singer Company Link Division, Binghamton, NY. The DRLMS is built by the General Electric Co, Simulation and Control Systems Department, Daytona Beach, Fl.. The EWTB is built by the AAI Corporation of Cockeysville, MD.

Cost History Comparison: N/A